ECONOMICA

Published Quarterly

38th Year : New Series, Vol. XXV, No. 97 : February, 1958

CONTENTS

The Problem of "Success Indicators" in Soviet Industry A. Nove 1

Movements in Retail Prices Since 1953 R. G. D. Allen 14

Behaviourist Cardinalism in Utility Theory Tapas Majumdar 26

The Theory of the Economic Effects of Government Expenditure in English Classical Political Economy B. A. Corry 34

A Note on the Early History of Consumer's Surplus R. W. Houghton 49

Input-Output Approach in an Allocation System A. Ghosh 58

Book Reviews 65

Books Received 90

THE LONDON SCHOOL OF ECONOMICS
AND POLITICAL SCIENCE

Houghton Street, Aldwych, London

PRICE TEN SHILLINGS POST FREE

UNIVERSITY OF ILLINOIS
LIBRARY
MAY 14 1958
CHICAGO

U OF I
LIBRARY

Books Reviewed in this Number:

PAGE

ABRAMOVITZ, M. and ELIASBERG, VERA F. *The Growth of Public Employment in Great Britain* A. R. PREST 72
ABRAMSON, A. G. and MACK, R. H., eds. *Business Forecasting in Practice: Principles and Cases* WM. R. BUCKLAND 86
FRANKEL, M. *British and American Manufacturing Productivity* A MADDISON 70
FUSFELD, D. R. *The Economic Thought of Franklin D. Roosevelt and the Origins of the New Deal* A. W. COATS 77
GOODMAN, R. *Teach Yourself Statistics* R. G. D. ALLEN 74
KNIGHT, F. H. *On the History and Method of Economics: Selected Essays* G. L. S. SHACKLE 65
KOMAROVSKY, M., ed. *Common Frontiers of the Social Sciences* P. SARGANT FLORENCE 85
KUTNER, B. and Others. *Five Hundred Over Sixty: A Community Survey of Ageing* PETER TOWNSEND 87
LATIL, M. *L'Évolution du Revenu agricole* J. R. BELLERBY 83
MEIER, R. L. *Science and Economic Development* A. K. CAIRNCROSS 69
MUMMERY, A. F. and HOBSON, J. A. *The Physiology of Industry.* T. W. HUTCHISON 76
NEMMERS, E. E. *Hobson and Underconsumption* T. W. HUTCHISON 76
PERKINS, J. O. N. *Sterling and Regional Payments Systems* F. V. MEYER 73
PRIMM, J. N. *Economic Policy in the Development of a Western State: Missouri, 1820-1860.* J. POTTER 78
RAU, A. *Agricultural Policy and Trade Liberalization in the United States 1934-1956* E. M. H. LLOYD 83
ROBSON, R. *The Cotton Industry in Britain* C. T. SAUNDERS 66
ROLL, E. *The Combined Food Board* E. M. HUGH-JONES 81
SAILLY, J. DE. *La zone sterling* F. V. MEYER 73
SAVILLE, J. *Rural Depopulation in England and Wales 1851-1951* W. ASHWORTH 80
STASSART, J. *Malthus et la population* S. G. CHECKLAND 79
STURMTHAL, A., ed. *Contemporary Collective Bargaining in Seven Countries* E. H. PHELPS BROWN 72
TURVEY, R. *The Economics of Real Property: An Analysis of Property Values and Patterns of Use* R. C. TRESS 68

See also SHORTER NOTICES

THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Series of Reprints of Scarce Tracts in Economic and Political Science

1. **Pure Theory of Foreign Trade and Pure Theory of Domestic Values.** By ALFRED MARSHALL. (1879.) 1930; re-issued 1935, 1949; 28, 37 pp. Full bound, 7s. 6d. ($1.26).

16. **Risk, Uncertainty and Profit.** By FRANK H. KNIGHT, PH.D. (1921.) With a new Introduction by the Author 1933, re-issued 1935, 1937, 1939, 1940, 1946, and 1948. Eighth Impression with new Preface by Author. 1957. Full bound, 25s.

Series of Reprints of Scarce Works on Political Economy

7. **Essays on Some Unsettled Questions of Political Economy.** By JOHN STUART MILL. (1844.) 1948; vi, 164 pp. Full bound, 10s. 6d. ($1.75).

8. **A Study of Industrial Fluctuation.** By D. H. ROBERTSON. (1915.) With a new Introduction by the author, and an Appendix entitled "Autour de la Crise Américaine de 1907 ou Capitaux-réels et Capitaux-apparents" by M. Labordère. (1908.) 1948; xxv, 350 pp. Full bound, 12s. 6d. ($2.00).

9. **The English Utilitarians.** By LESLIE STEPHEN. (1900.) 1950; Vol. I. Jeremy Bentham, viii, 326 pp.

10. **The English Utilitarians.** By LESLIE STEPHEN. (1900.) 1950; Vol. II. James Mill, vi, 382 pp.

11. **The English Utilitarians.** By LESLIE STEPHEN. (1900.) 1950; Vol. III. John Stuart Mill, vi, 525 pp. Full bound, £2 2s. per set. ($6.50).

12. **London Life in the Eighteenth Century.** By M. DOROTHY GEORGE. (1925.) 1930, 1951; 468 pp. Full bound, 15s. ($2.25).

13. **The Economic Writings of Francis Horner in the "Edinburgh Review" 1802-6.** Edited with an Introduction by FRANK WHITSON FETTER. 1957; vii, 134 pp. Full bound, 21s.

Orders, other than from U.S.A., should be addressed to: MISS BETTY BARRON, *Publications Department, London School of Economics, Houghton Street, Aldwych, London, W.C.2.*

U.S.A. orders should be addressed to: *Kelley & Millman Inc.,* 400 *W. 23rd Street, New York, 11, N.Y., U.S.A.*

The Problem of "Success Indicators" in Soviet Industry

By A. Nove

Critical analyses of planned economies have tended to concentrate on such problems as rational investment choices, or the proper basis for planners' decisions. These are indeed matters of great importance, to which the experience of the Soviet Union is highly relevant, but it is not to them that the present paper is devoted. Let it be assumed that the decisions of the central planning authority about economic behaviour in all its aspects accord with ultimate wisdom, however this may be defined. There remains the problem of having these decisions implemented at the level at which production takes place, for it remains true, in Russia as elsewhere, that planning authorities produce only official documents. The actual work must be done within an enterprise or firm, under the authority of a director. The director is told from above what he should produce, and what he is told accords with the plan, so on the face of it there is no problem, so long as he does what he is told. However, the situation is much more complicated in reality, and it is my belief that much goes wrong precisely at this stage.

A director of a state enterprise in the Soviet Union owes his position to the ministry or regional authority which appoints him to manage state property, and he is bound by the orders he receives from his superiors. Failure to obey can result in dismissal. He is under orders to implement the plan. Many of the basic materials and components necessary for the productive process are allocated to the enterprise by decision of superior authority, and he must dispose of the product through official disposals agencies, at prices fixed from above. Yet despite all these things, the director is constantly presented with a range of alternative decisions. Let us briefly examine in what they consist.

In the first place, only the man on the spot is likely to know the precise possibilities of the plant under his control, and so he is bound to be involved in the elaboration of the production plan for the enterprise. The planning authority depends, therefore, on his positive collaboration at that stage.

Secondly, the large majority of commodities are not homogeneous. Listed or implied in the plan must be a variety of different types, models, sizes. Then, of course, many enterprises produce more than one commodity. The director is constantly involved in choices as to exactly what to produce, either because the plan does not itemise the variants in detail, or because it is found necessary or convenient to fulfil part of the plan at the expense of another.

Thirdly, it is vital to the central planning authority, and to the Soviet state, that enterprises produce goods with a minimum expenditure of resources. It is clear that economical operation must depend to a large extent on the management on the spot, and cannot just be prescribed from above—though efforts are made to lay down various " norms ", for instance for the utilisation of certain materials.

Fourthly, the development of new production methods, or of new variants and designs of the product, depend to a large extent on the initiative of those in charge of particular enterprises, or on their willingness to utilise positively the ideas and initiative of others.

Fifthly, despite the existence of central allocation schemes, for a number of materials, the director can, and does, exercise choice. He can, within fairly wide limits, decide what materials to indent for, he can take the initiative in seeking out suppliers and enter into contracts with them, he can try to use his own resources to make on the premises such components as he finds it difficult to obtain from outside sources.

The above list is by no means exhaustive, but should suggest to the reader that it is important for the Soviet economy that managers should use their powers in the desired direction. Mere orders, threats, " terror ", cannot do the job. This is not to say that straight coercion has not played an important role in Soviet economic history. Obviously, it has. However, coercion is not a means of ensuring efficiency, indeed, it is often directly destructive of efficiency. It is effective in ensuring that a few clearly defined priority objectives are met, *at any cost*. With the growing complexity of the economy, and with the emergence of more and more competing pressures for limited resources, the cruder methods of the thirties become less and less satisfactory. As the leaders strive after their basic objective—defined repeatedly as " catching up the most advanced capitalist power in the shortest possible time "—they are driven to consider more carefully the relative scarcity of resources. They are compelled more and more to make economic calculations, to count the cost. This has led to much discussion in print of how best to ensure the efficient operation of enterprises, especially in 1956–57, which has made possible a clearer view of the practical problems involved, and has contributed much of the raw material of the present paper.

The planners, then, must so stimulate the behaviour of plant managers as to achieve efficiency. This can only be done by rewarding " desirable " behaviour, either in cash or in increased esteem, improved chances of promotion, the issue of Orders of Lenin, or some other form of incentive. These rewards, in their turn, must be associated with some definable achievements. The management must know in advance what it must do to qualify for rewards. Therefore it becomes necessary to define what I have called " success indicators " (in Russian, *pokazateli*) under various desirable heads, such as volume of output, reduction in costs, labour productivity, and so on. In a number of respects, which may not be obvious at first sight, many of these indicators have operated in ways which cause managements to deviate from the pursuit of efficiency, and have largely defeated their own ends. The rest of this paper will be devoted to considering these difficulties.

The criterion of success most familiar to us is that of profit. Enterprises are encouraged to make profits in the USSR, and derive material advantages from so doing. A part of the planned profit, and a much larger proportion of any in excess of plan, is used to create a so-called " fund of the enterprise ", formerly known as the director's fund.[1] Part of this money may be devoted to expanding productive capacity over and above the authorised investment plan, part for housing and amenities, part for the payment of bonuses. There is thus an interest in increasing profits. Managers are also interested in avoiding losses, since these are likely to lead to difficulties with the State Bank and attract the unwelcome attention of inspectors from various supervisory agencies. However, profits have not served, so far, as a major criterion of success, and the reasons for this are not far to seek.

The basic difficulty has always been the absence of any objective criterion for price-fixing, and the lack of any logical relationship between prices, profits and the desired assortment of production. Indeed, one critic has rightly argued that this makes the present rules governing allocations to the " Fund of the enterprise " highly unfair, precisely because " it is clear that in the Soviet economy, profit is not the aim or the regulator of production ", so that a reward related to profits does not reflect real efficiency.[2] Another Soviet critic draws attention to the " enormous range of profit rates as between different sectors and between different products within the same sector ".[3] This is a consequence of arbitrary and centralised price-fixing. While it is no longer the normal practice of Soviet planners to fix prices below the prime cost of production, for many products they barely cover average costs for the given industrial sector. This inevitably leaves a large number of enterprises working at a loss, and indeed their financial plans envisage a deficit. Even now, " in the extractive industries about 25 per cent. of enterprises make planned losses ", and 10 per cent. of engineering (" machine-building ") enterprises are in the same position.[4] The importance of the concept " profit " is necessarily affected by the existence of so many enterprises which make losses through no fault of their own. In any case, the measurement of profit under Soviet

[1] Usually from 1 to 6 per cent. of planned profits, plus 20–40 per cent. of any additional profits, subject to a maximum of 5 per cent. of the given enterprise's wages fund. The higher percentages apply to enterprises expected to make small profits. Those expected to make losses are rewarded by the transfer of part of any saving on cost of production to their Fund of the enterprise. Any profits remaining after allocations to this fund are transferred to the state budget, apart from amounts which are retained for purposes specifically authorised—e.g., an approved investment project.

[2] Kagaredov in *Finansy SSSR*, No. 6/1957, pp. 36–7.

[3] Kulikov in *Voprosy Ekonomiki*, No. 9/1957, p. 80.

[4] Kisman and Slavnyi: *Sovetskie Finansy v pyatoi pyatiletke* (Moscow, 1956), p. 63. The data relate to 1956. For a valuable survey of relationship of prices to costs in the last thirty years, see Lynn Turgeon in *Soviet Studies*, October 1957.

conditions is economically misleading, even if one leaves out of account the illogicalities of pricing. There is no interest payment on basic capital, and the depreciation allowances are much too low.[1] There is no land rent, with all the complications which must follow from its absence in the agricultural sector and elsewhere. Profits are expressed not in relation to capital but as a percentage of gross turnover. Under all these circumstances, profitability could not and cannot possibly be used as the basic criterion for economic decision. If managers were allowed to pursue maximum profits, it is clear that their choices between alternative inputs of materials and output of commodities would be highly irrational in relation to the requirements of the economy—unless and until there is a major overhaul of the theory and practice of pricing.

We will return to these problems later on. It is sufficient at this stage merely to note that profits have not been the dominant " success indicator " to which the operations of Soviet enterprises could be geared.

The primary, essential success indicator has been *plan fulfilment* in quantity terms. Other indicators of considerable importance have concerned labour productivity, costs per unit, economy of materials, economy of wages, and the list could be prolonged. In each case, achievement of the plan is rewarded, failure leads to loss of bonus and/or administrative reprimand. Rewards are often very substantial indeed. For example, a manager in the oil industry may receive a bonus of 42 per cent. of his salary for fulfilling the output plan, plus 4½ per cent. for every 1 per cent. over-fulfilment.[2] There is abundant evidence that it is on plan fulfilment that the credit of a manager with his chiefs primarily depends. A whole complex range of problems and distortions arises in connection with the rewarding of plan fulfilment, and these must now be considered.

The first problem arises at the stage of deciding what the plan should be. The director knows that a large bonus awaits him if he exceeds 100 per cent., and the smaller the " 100 per cent." is, the easier it will be to exceed it. The more honest he is about production possibilities, the higher will be the target set him, the more difficult will it be to win the bonus on which, *inter alia*, his wife's promised fur coat may depend. As has been repeatedly pointed out by Soviet writers, honesty is thus penalised, and deceit rewarded.

Then, once the plan has been decided upon, it is often best to avoid overfulfilling it by too wide a margin, for fear of inciting the authorities to make an excessive upward adjustment in the year following. Several sources make this point: a wise director fulfils the plan 105 per cent., not 125 per cent.[3]

---

[1] Their extreme inadequacy is strikingly illustrated by Safrai in *Voprosy Ekonomiki*, No. 7/1957, and by many others.

[2] *Spravochnik po zarabotnoi plate v neftyanoi promyshlennosti* (Moscow, 1956), p. 192.

[3] For example, Nikolaeva in *Novyi Mir*, No. 7/1957, p. 74, and also *Kommunist*, No. 1/1957, p. 49, and so on.

However, a more serious problem is how to define what the plan is. In some industries, of course, this is not difficult. Thus, electrical energy can be conveniently defined in kilowatt hours. But most enterprises produce many varieties of articles, whether these be machine-tools or cloth, toys or building materials. Success, to be rewarded, requires a definition, a target figure of some kind. It can be in weight, length, numbers, money or some other suitable unit. In almost every case, distortions and illogicalities result in the course of plan fulfilment at the level of the enterprise. On these there is now quite an extensive literature in Soviet periodicals.

When the output target is in tons, then any shift to a less heavy variant will be avoided by the enterprise whenever possible. It does not " pay " to make lightweight rolling mill products, small cement blocks, and so forth. For example, a certain metal works increased its output of roofing iron in a five-year period by 20 per cent. in terms of tons, but by only 10 per cent. in square metres; the plan, of course, was expressed in tons, and the enterprise reached its output target by an economically and technically unnecessary increase in weight.[1] Needless to say, there would be an equally " logical " tendency to avoid making the heavier kinds of roofing iron if the plan were in square metres. A long catalogue of examples of this kind can readily be assembled from the Soviet specialised press.

More common, on the whole, is a measure of success in money terms, by the value of gross output. For many years this " success indicator " has discouraged the production of cheap clothing, since the cheaper is the material used, the harder—other things being equal—it must be to fulfil the plan. For the same reason there has been a marked reluctance to use any but the dearest kinds of steel in tool-making.[2] Again, examples can easily be multiplied, and there seems no doubt that substantial distortions have been introduced into the economy by what one critic has called " the cult of gross output " (*kult vala*).[3] Then, because gross output includes any increase in the carryover of uncompleted production, there is also a tendency for the management to aim at having an unnecessarily large amount of work in hand at the end of the plan period, exclusively to be able to score a " statistical " success.[4] A more serious, though less obvious, consequence of the use of gross output as an indicator of success is a shortage of spare parts, which for long has been a notorious source of weakness in the USSR. At first sight this may appear strange, since it seems that a sparking plug worth 10 roubles would " count " equally whether it is sold separately or placed in a completed tractor. However, in a tractor this sparking plug is combined with goods and services purchased from *outside* the given enterprise. Suppose, to take a simplified example, half of the completed tractor consists of components bought from other factories. Then its total value will be equal to twice the value of the parts which *are* made in the given enterprise. But then it follows that the sparking plug will be worth twice as much, in terms of plan fulfilment, if it is in a completed tractor than if it were sold separately.[1]

---

[1] *Sotsialisticheskii Trud*, No. 1/1957, p. 50. [2] *Ibid.*, p. 52.

[3] Kondrashev: *Tseno-obrazovanie v promyshlennosti* (Moscow, 1956), p. 32. This writer is among the more radical advocates of price reform.

[4] Antonov in *Planovoe Khozaistvo*, No. 5/1957, p. 83.

Of course, it has not escaped the notice of Soviet economists that gross output can be a misleading criterion of success, because of the effect on the end-result of purchases of goods and services. Some have argued for the use of value-added as a truer measure. Indeed, from 1957 the " cost of work done " in the enterprise, and not gross value, has become the basis for measuring plan fulfilment in the clothing industry.[2] However, the net output principle is also open to grave objection, in that it encourages maximising of work carried out within the enterprise, discourages rational forms of inter-enterprise co-operation and sub-contracting. These arguments were made in a vigorous discussion on this question, and the conclusions seemed on the whole not to favour a change to net output.[3]

Another weakness of plan fulfilment as a major success indicator is the influence of the calendar on economic activity. Targets have necessarily to relate to some date, and so the activities of the management inevitably concentrate on the task of recording the appropriate achievement by the date prescribed, which is by no means the same thing as acting in the most rational manner. This explains the marked tendency towards so-called " storming " (*shturmovshchina*); a mad rush occurs towards the end of every plan period, followed by a lull and then another mad rush. There is an extensive Soviet literature on " storming ", with many an official condemnation of the practice. Yet it goes on, which suggests that it is actively stimulated by the planning system.

The measurement of success over time also introduces the complication of deflating value figures for price changes, a process made difficult by the introduction of new products or variants. The attempt to express output in terms of " unchanged plan prices " has at times led to major distortions of both output and statistics, which it is impossible even to begin to discuss here.[4]

It has already been noted that the management is rewarded not solely for raising output, but also by reference to a whole number of other success indicators. However, far from correcting the deviations listed above, these other indicators either exercise a distorting pull in the same direction or introduce new distortions of their own. Some of the clearest examples concern the rewarding of increases in labour productivity. Since this is calculated, in most cases, by dividing the labour force into the *gross output*, there is just the same interest in inflating the latter to any possible extent. Almost every example of the distorting effects of endeavours to fulfil the plan recurs repeatedly in discussions about the measurement of labour productivity. For instance, in one such discussion it was pointed out that output and productivity in the case of wool cloth are both measured in linear metres, with the consequence that its width averages 106 centimetres, against a technical optimum of 142 centimetres, as this is the easiest way to be rewarded for success under both these heads.[1] Indeed, many are the contrivances by which the management seems able to affect the statistical expression of productivity without any real gain in efficiency, and one wonders whether direct rewards for increases in output per head are a useful way of stimulating the rational use of labour.

---

[1] Similar cases are discussed by Antonov, *op. cit.*, and by Kontorovich in *Planovoe Khozaistvo*, No. 3/1957.

[2] *Vestnik Statistiki*, No. 3 /1957, pp. 74–75.

[3] Though in the discussion of measuring labour productivity, reported in *Vestnik Statistiki*, No. 3/1957, it was well argued that, for this purpose at least, net output is less misleading than gross.

[4] For a survey of the distorting effects of the use of so-called " unchanged prices of 1926–27 ", see Nove (" 1926–27 and all that ") in *Soviet Studies*, October, 1957.

Serious difficulties also stand in the way of finding some means of rewarding the management for reducing costs of production. These are mainly connected with changes, real or potential, in the assortment or type of product. Thus one Soviet critic has pointed out that such rewards can incite the management to reduce quality, a tendency which can also be encouraged by rewarding economy of materials.[2] Then there is the question of comparability. A Soviet economist has shown that " in order to provide effective checks on cost reduction, the greatest possible number of products are considered to be comparable ", even though the design may have been appreciably altered.[3] This affects not only the validity of aggregate output statistics, but also the pattern of production. The same economist added: " The question of comparability is often in conflict with the improvement of the quality and range of output of the enterprise, and sometimes acts as a direct obstacle in the path of introducing new and better types of products ", because the enterprise will tend to avoid making " those products which will be deemed ' comparable ' if the change in design involves increased costs per unit ". No one likes to lose their bonus. So here again the success indicator stimulates a departure from the path of economic common sense.

The " success indicator " system has a negative effect in two other ways. It fails to provide any encouragement for innovation, and it does not reward quality or, to put it another way, it does not provide the necessary link between the producer's behaviour and the user's requirements.

First, the question of innovation. The Soviet regime has devoted much effort to the encouragement of inventors, and whole sectors of its industry have certainly been equipped with excellent machinery. However, much of this occurs on the direct order or instigation of the central authorities. Initiative at the level of the enterprise is, unintentionally, somewhat discouraged. There is no disposition on the part of superior authority to tolerate a halt for retooling, which is involved in a change of production method or design, since it would affect the current output plan. Nor is there any reward for risk-taking, though there is generally some risk if a manager takes it upon himself to try something new. The difficulty has been well stated in a literary periodical: " The introduction of a new method involves risk and, as in all gambling, capital is needed. Risk involves the possibility of loss, does it not ? Yet even if a director is given the capital, just let him take a gamble and not win ! . . . No, it does not behove a director to take risks. . . . The trouble is not so much that a few millions might be lost but, God forbid, the quarterly output programme might be threatened. Then the department concerned will appear in an unfavourable light in the statistical board's report ".[1]

---

[1] *Sotsialisticheskii Trud*, No. 1/1957, p. 50.

[2] Kondrashev, *op. cit.*, p. 32.

[3] Vainshenker in *Vestnik Statistiki*, pp. 20–21.

Secondly, a few words about quality and the demand pattern. Here the problem is intimately connected with the inadequacy of the price mechanism. Clearly, so long as the primary object of the management is to strain to achieve plans expressed in quantitative terms, quality will suffer. So long as the goods conform to some minimum standard, they will count for purposes of measuring gross output. If the user's preferences—be that user a citizen or another factory—do not fit into the various success indicators, they tend to be disregarded. Since prices are decided centrally, and cannot be varied (save in a very few instances) by agreement between supplier and recipient, an essential economic link is missing. The consequences have been much commented upon in articles published recently in the USSR. A Soviet technician argued that the managerial incentive system leads to failure to adapt civil aircraft to the needs of the *Aeroflot* line, and adversely affects the durability of such commodities as rubber tyres and electronic valves by providing no reward for quality.[2] An economist pointed out that engineering factories are often " uninterested in improving their machines, as this might lead to a worsening of their economically-measurable activities " (i.e. would affect the success indicators).[3] Another economist criticised the repeated failure of the consumers' goods industries to respond to consumer demand. Requests from the retail trade network are often rejected " because a change in output would lead to the non-fulfilment of the gross output plan " by the manufacturers.[4]

The tendency to distort the output assortment is, of course, limited by certain specifications in the plan itself. One reason for the excessive centralisation and great detail of planning, which has been the subject of much criticism, has been precisely the need to combat the tendency to distortion inherent in the " success indicator " system. However, there is ample evidence to show that those items which fit most easily into plan fulfilment indicators are produced in excess of the plan, while others remain relatively scarce. Nor can all variants be separately prescribed from above.

---

[1] Lebedev in *Zvezda*, No. 5/1957, p. 155.

[2] *Znamya*, No. 2/1957. This technician had no doubt that the " comrade economists " should devise a connecting link between use-value and profitability.

[3] Ganshtak in *Finansy SSSR*, No. 6/1957, p. 19.

[4] Lokshin in *Voprosy Ekonomiki*, No. 5/1957, p. 132.

In theory, the supervisory organs are supposed to prevent the deviations which have been here described. Among them, the most important are the local Communist party organisations and the immediate superiors of the enterprise (i.e. a department of the economic ministry or, under the recent reform, the appropriate department of the regional economic council). Unfortunately, all these bodies are interested in just the same success indicators as the enterprise. Their credit depends in large part on the plan fulfilments in their area of responsibility. It is Khrushchev himself who has been urging the need to relate even the salaries of party officials with the economic success indicators of their areas. Therefore, far from checking these undesirable tendencies, the " supervisors " connive at, or even encourage them, judging from the indirect evidence available.

. . . . .

Before turning to a brief discussion of what can be, or is likely to be, done to correct these deficiencies, a few other remarks would be in order, if only to ensure a due sense of proportion. In the first place, it must be emphasised that the paper is concerned with an aspect of Soviet micro-economics—or should it be micro-planning—and not with the more general question of the relative strength and weakness of the Soviet economic system as a whole. This system grew up as part of an attempt by an authoritarian regime to maintain ultra-rapid tempos of industrialisation and to build up military might. To the extent to which these objectives were achieved, it would be foolish to speak of " failure ". Perhaps if the highest priority is maximum growth of heavy industry at almost any cost, in conditions of relative abundance of labour and a lavish supply of untapped natural resources, there is some logic in a system which provides the highest rewards for those who produce more. The student of the British war economy will have little difficulty in finding parallels for many, if not most, of the distortions listed in the preceding pages; the problem of how to stimulate and reward desirable activity by firms was a very real one. It is possible, therefore, that the harmful effects of " success indicators " are an inevitable part of the cost of running an economy dominated by a few priority objectives determined by politicians.

Then it should not be thought that, so far as the USSR is concerned, the distortions discussed here are in any sense new. There is ample evidence that they existed also in the thirties.[1] The new element in the situation is the effort now being made to probe the sore as part of an attempt to find cures for the disease. For reasons too complex even to touch on here, there is now much less willingness to pay the price, in terms of waste of scarce resources, involved in the highly centralised system of "priority" planning of which the success indicators are a part.

---

[1] See, for example, D. Granick's *Management of Industrial Firms in the USSR* (Columbia University Press, 1955). A new book by J. S. Berliner, *Factory and Manager in the USSR* (Harvard, 1957), also deals with these topics, using largely materials relating to the 'thirties, but this book was not to hand at the time of writing.

Soviet economists have approached these problems on a number of different levels. Some have gone no further than pointing out ways of improving the existing success indicators—and it is certainly true that some indicators are less unsuitable than others. However, the more thoughtful members of the profession see this question as part of a more fundamental one: the role of the "law of value" (i.e. prices, profits, market forces, rationality) in the Soviet economy. Two national conferences, in December 1956 and May 1957, have been devoted to "the law of value",[1] and the specialised press has been publishing articles on related topics throughout 1957.

A key element in any such discussion must be the relationship between the central plan and the actual operation of the economy. It must therefore be mentioned that, while the economists argued, the Soviet leaders introduced an important new element into the situation by a radical reorganisation of industrial planning and administration. By a new law, which came into operation on 1 July, 1957, the USSR has been divided into 105 economic regions. Most industrial ministries have been abolished. Each regional authority now plays an important role in directing the operations of industrial enterprises within it and for drawing up plans, subject to the authority of the centre. The reform has many aspects which cannot be discussed here, but in one respect it is most relevant to the problems with which we are concerned. A planning authority with *regional* responsibilities is in quite a different situation from that of the central planners. The latter can, at least in theory, estimate national need in quantitative terms. A planning chief located in Kursk or Archangel cannot do so, and indeed cannot even know the direct consequences of his decisions on enterprises located outside his own area of responsibility. No doubt each region will work to a plan prescribed from above, but there are bound to be decisions to be made at regional level—the more so as one object of the entire scheme is to ensure a much needed increase in local initiative. But what are to be the criteria underlying regional decisions? There are signs that the regions are being provided with success indicators of their own, and of course the obvious one, already in use in "inter-regional competitions", is gross output in monetary terms. This suggests that all the distortions which have been noted at enterprise level will operate in the new regional structure, only on an even larger scale. Thus the creation of regional planning bodies, far from simplifying the relationship between planners and producers, has introduced a new complication, and has made the search for more satisfactory economic criteria more urgent than ever.

---

[1] Reported in *Voprosy Ekonomiki*, Nos. 2 and 9/1957. Also a similar discussion among statisticians is related in *Vestnik Statistiki*, No. 4/1957.

These problems must lead to a reconsideration of the role of market forces, of profitability as the irreplaceable all-in criterion of success and of action. Once the economy grows too complex to be controlled effectively from the centre, it is increasingly difficult to avoid using the market mechanism, with a flexible price system responsive to supply and demand. There are signs that some Soviet economists see this clearly enough; thus I. Malyshev has argued for a recognition of the logical connection between rationality and profitability.[1] A leading " official " economist, Gatovski, has also spoken up in favour of a more logical price system and a more extensive role for the profit motive.[2] However, there are serious obstacles in the way of an explicit recognition of the needs of the situation.

One such obstacle is Marxist theory. It is not enough to advocate a more rational price system, it is also necessary to define some means of deciding what a rational price is. Turning to Marx, Soviet economists find themselves saddled with a definition of value in terms of " socially necessary labour power ". This has caused a number of them to criticise the existing price system by reference to the Marxist concept of value; values and prices should, they argue, equal wages of labour plus the " surplus product " created by the workers.[3] Certain exceptions are admitted, e.g. in the case of such interchangeable fuels as coal, oil and natural gas—but this approach involves basing prices on some version of factor *cost* (though there is disagreement about how cost should be defined for this purpose), while almost entirely disregarding use-value, demand. Under such a price system, at best the management will be *indifferent* on whether to produce article A or article B, even though the user would prefer A. Such a theoretical approach as this leaves no place for market forces. It is an interesting question whether Marxist modes of economic thought can be adapted to serve as a basis for necessary reform. The economist Kulikov, in his contribution to the discussion of December, 1956, brought up the point that an unsaleable commodity fails to achieve " social recognition ", i.e. that the labour used in its production is misapplied. Marx did, of course, recognise that a *useless* object has no value. Perhaps someone will have the sense to see that some commodities, though not useless, are less useful than others. Then perhaps there will be forged the essential link between " value " and utility, by the recognition of " degrees of social necessity " or " degrees of social recognition ", thus bringing the operation of market forces within the verbal framework of Marxism (e.g., "A is more wanted than B, and therefore, *ceteris paribus*, the labour expended on A is socially more necessary. . . .").

---

[1] *Voprosy Ekonomiki*, No. 3/1957, and again in *Planovoe Khozaistvo*, No. 7/1957. In the latter (p. 63) he urged the need for some objective basis for choice between alternatives at the level of the enterprise.

[2] *Kommunist*, No. 9/1957, and also his contribution to the discussion in *Voprosy Ekonomiki*, No. 9/1957.

[3] In pure form this somewhat scholastic approach may be found in Strumilin's contribution to *Planovoe Khozaistvo*, No. 2/1957. Variants of the same idea are put forward by Kondrashev and Kronrod, and even Malyshev is not free of it. In Strumilin's version the price of any one product should in principle be equal to wages paid out in its production, plus that fraction of society's total expenditure on accumulation and services which is represented by the enterprise's wages bill in relation to the total wages fund.

However, there is little doubt that the principal obstacle is not theory, but rather the conviction of the political leaders and planners that *they*, and not any " law of value ", are the regulators of economic life. Their function, indeed, does to a large extent consist in replacing the operation of economic laws by political decision. This attitude is expressed by official economists by denying to the " law of value " a regulatory role under socialism. The contrary view is denounced as " revisionism ". Professor Ostrovityanov put the point this way: " The idea is widespread among foreign economists . . . that output should be regulated by the free fluctuation of market prices . . . under the influence of supply and demand. Such ideas involve the unleashing of elemental forces and would cause anarchy in production, contradicting the very essence of the socialist planned economy ".[1]

It is important to distinguish two strands in the debates now going on in Russia. One line of argument is primarily concerned with *criteria for planners at the centre*. It is admitted by everyone that the importance of economic calculation was underestimated, that planners' minds were confused by an illogical price system, and that in consequence expensive errors were made, particularly in the planning of investments. It may well be that, from the point of view of central planning, a system of values and prices based on some concept of factor cost could serve as a useful criterion. But this paper has been concerned with a rather different (though related) question; not with planners' decisions (be they sound or unsound), but with behaviour at lower hierarchical levels. It is on these levels that the success indicator system has so clearly shown its inadequacy, and official thinking has not yet advanced much nearer to the only possible solution. There is evidence that some Soviet economists have been advocating the " market " idea,[2] and many managers of Soviet enterprises must surely support it, since it is not only conducive to greater efficiency but also enhances their powers. However, it remains politically very difficult to pursue this line of argument.

---

[1] *Pravda*, 26 April, 1957. The " foreign economists " are, principally, Poles and Yugoslavs.

[2] Ostrovityanov, in *Kommunist*, No. 13/1957, p. 99, claimed that the heretical arguments of certain Poles, who had been advocating a free market, were rejected by " the overwhelming majority " of Soviet economists. This means there was a minority which accepted them. The tone of the articles against " revisionism " certainly suggests that Soviet economists have been straying from the path of orthodoxy in these matters. The logic of many of the arguments advanced by the more radical critics certainly leads towards the market solution, though the word " market " is still too " dirty " to appear in print in this connection.

The orthodox theoreticians, and also the Soviet leaders, face a dilemma. They need efficiency, they are in no mood to tolerate the irrationalities of the over centralised planning mechanism inherited from the Stalin period of industrialisation, they repeatedly stress the need for reform. Yet ideological principles and political interests cause them to shy away from a consistent approach to the problems they wish to solve. Marx has said nothing which can help them, but it must also be admitted that they would derive little aid from studies of planning by western economists, as these have dealt almost entirely with the behaviour of a central planning agency. Little has been done to consider the position of the productive units within a planned economy, in relation to the planners and to the incentives provided. It might be useful to compare the position of a Soviet enterprise to that of an autonomous division of a great western monopoly, where we also find the need to reconcile central control with initiative, the stimuli of market forces with the headquarters plan. British nationalised industries are another fruitful field of comparative study—though they mainly operate in sectors where the problem of choice between variants of output scarcely arises. (It might be said in passing that the price policies of our nationalised industries should remind us that irrational pricing is no monopoly of the Soviet world.) It would be useful to examine the experience of Yugoslavia, where market relations have to some extent been restored in recent years, and to consider the discussions which have raged in Poland. The " success indicator " problem is part of a neglected study—the micro-economics of planning. We could spare a sympathetic thought for the Soviet economists who, in not altogether favourable circumstances, are cautiously seeking ways and means of tackling it.

London.

Movements in Retail Prices Since 1953

By R. G. D. ALLEN

INTRODUCTION

The general magnitude of the inflationary rise in prices from 1954 to 1957 is well known: an increase of about 4 per cent. per year in the all-items index of retail prices. I propose here to examine differences in price movements from one commodity group to another, in order to throw light on the nature of the inflation and on the prospects of it being stopped. In addition, now that data are available on recent patterns of consumption,[1] I provide some estimates of the incidence of price movements in the last few years for various broad categories of consumers.

As the basis of my analysis I take the present price collections, and the corresponding index numbers of retail prices, of the Ministry of Labour. These cover a wide range of families, together making up about 90 per cent. of the total population; I shall call these *index families*. Strictly speaking, I can only start the price series at January, 1956, the date when the collection of prices began on the present coverage. However, making use of index numbers calculated on a rather narrower basis, and published by the Ministry in some detail between 1952 and 1956, I can carry the series back for a few years with reasonable accuracy. On the other hand, because of the lack of detail in the Ministry's published index numbers from 1947 to 1952, I can obtain only very rough estimates of comparable series before 1952.[2]

The period I consider is the four years from October, 1953 to October, 1957. To eliminate as far as possible the effect of seasonal movements, I take only the figures for October each year. The starting point of October, 1953 is a month when retail prices were relatively stable—the last such period, extending from April, 1953 to June, 1954. The price series are set out in Appendix I in as much detail as I use.[3]

It is of more than passing interest to compare price movements in 1953–57 with those in the preceding four years, from October, 1949 to October, 1953. This earlier period, starting and ending at times of price stability, covers the effects of devaluation and of the world-wide excess of demand during the Korean crisis of 1951. As noted, only rough estimates are possible for the period and price series cannot be written in the detail shown in Appendix I. The calculations I have made are designed to indicate only orders of magnitude of price changes over the four years 1949–53, and only for the main groups of commodity prices.

---

[1] *Report of an Enquiry into Household Expenditure in 1953-54.* H.M.S.O., 1957.

[2] My present approach is to be contrasted with that I adopted in *On the Decline in the Value of Money*, Athlone Press, 1957. The monthly index I then took was the Interim Index published by the Ministry of Labour from June, 1947, i.e. for working-class and lower-salaried families and not for the present group of index families. I link this index back to 1938 but it stops effectively at January, 1956.

[3] In my data for the months before January, 1956, I make some use, for particular price series (e.g., motoring and cycling), of constituents of the C.S.O. Index of Market Prices for All Consumers.

MOVEMENTS IN RETAIL PRICES, 1949–53 AND 1953–57

I combine the price series of Appendix I into index numbers in the period 1953–57, as shown in Table 1 in comparison with corresponding figures roughly estimated for 1949–53. The results apply to the group of index families and the weights used (also shown in Table 1) are obtained from the average consumption pattern of these families in 1953–54.

TABLE 1

RETAIL PRICE MOVEMENTS FOR INDEX FAMILIES

Group and sub-group	Weight*	% increase in prices (October to October)			
		4 years 1949–53	4 years 1953–57	2 years 1953–55	2 years 1955–57
Food	350	39	18·2	13·3	4·3
Drink and tobacco . .	151	2	9·1	1·0	8·0
Housing	87	16	23·8	6·3	16·4
Coal and coke . .	28		40	22	15
Other fuel and light . .	27		23	6½	15½
Fuel and light . .	55	33½	31·1	13·8	15·2
Clothing	106		5½	½	5
Furniture appliances and furnishings . .	56		7	2	5
Hardware, etc. . .	10		16	6	10
Clothing and durables	172	23	6·6	1·0	5·6
Books, newspapers . .	16		31½	6½	23½
Medicines, toilet and cleaning items . .	26		12½	1	11
Other goods	17		10	1	9
Miscellaneous goods . .	59	19	16·8	2·5	14·0
Postage, telephones . .	6		39	2	36
Entertainment. . . .	23		16	5	10
Other services . .	29		22	7	14
Motoring and cycling	30		13	4	9
Travel	38		28	8	18
Services and transport	126	30	21·2	6·1	14·3
All items	1,000	24	16·1	7·0	8·5

* Consumption of group of index families in 1953–54 valued at prices of January, 1956.

Consider first all goods and services except food, together accounting for 65 per cent. of the total weight in the retail price index. In the two latest years, from October, 1955 to October, 1957 there was a surprising amount of uniformity in the price movements; the increase generally ranged from 8 to 16 per cent. in the two years, or about 6 per cent. per year on the average. Exceptionally large price rises were recorded for three particular groups, due to recent increases in postage and telephone rates, in newspaper prices and in bus fares. Only clothing and the main household durables had price rises smaller than average, amounting to about 5 per cent. in the two years.

Changes in indirect taxation were of minor importance in this period. Rates of purchase tax on a limited range of items were twice changed, upwards at the beginning of the period and downwards in 1957. Excise tax on tobacco was twice increased, late in 1955 and in 1957, but this is by no means enough to account for the rise of 8 per cent in drink and tobacco prices in the two years; there were also " genuine " price increases. Similarly, the net effect of the Suez crisis of 1956–57, e.g. on petrol prices and fares, was not large over the whole period.

The general impression is that higher costs, both in manufacturing and in distribution and services, were being passed on (at least in part) to consumers. The relative uniformity of the movements in prices, though a feature of 1955–57, was not found in earlier periods, neither the two preceding years (1953–55) nor the four years before (1949–53). Prices of manufactured goods—excluding fuel and light in this context—were almost constant in the two years to 1955, and it was only then that they approached again the levels to which they rose during the Korean crisis of 1951–52. On the other hand, prices of services, transport, housing, fuel and light increased considerably in all years from 1949, slowing down in 1953–55 and subsequently accelerating again.

It appears that, if food prices are ignored, the inflation since 1953 has developed differently from that which followed devaluation and the Korean crisis. There was an uneven and ragged advance in prices at first, quite unlike the upward surge of 1951. Certainly the pressure of demand was considerable. However, without the impetus of rising import prices, and with productivity increasing in manufacturing, major price increases were confined to particular items; the lead was taken by prices of services, fuel and light. Later, after 1955, the advance became more general and pronounced. This is what would be expected if wage increases were being passed on fairly uniformly under conditions of excess demand. The exceptional behaviour of food prices may well have had something to do with this development, a point which needs to be examined more closely.

Movements in Retail Food Prices, 1953–57

The variations in food prices between October, 1953 and October, 1957, as disclosed by the series of Appendix I, are summarised in

Table 2. Food items carry a weight of 35 per cent. in the consumption pattern of the retail price index and movements in their prices must always be expected to be a critical factor in the general price variation. Certainly, until the last year or two, food prices have dominated the retail price index in the post-war period. They increased by nearly 40 per cent. from 1949 to 1953, a period of rising import prices, and of fast-growing domestic demand just beginning to burst out of the strait-jacket of rationing and price control. The increases continued, at a rather lower but still very high rate, in the two years 1953–55. That they did so may well have been the determining factor in the development from an uneven price rise before 1955 to a more general advance after 1955.

It is indeed difficult to find a way through the maze of confused and interrelated influences on food prices in these years. Unlike the period around 1951, import prices of foodstuffs were rising neither fast nor generally between 1953 and 1955. There was a slow upward trend in import prices of meat, fruit and vegetables, some more rapid increases (e.g. in tea prices) offset by some declines. The food price index has an import content of about one-third; import prices were, on the whole, a stabilising factor in the two years. Domestic influences were clearly much more important, and particularly the events leading up to and the consequences of the elimination of price control on meat, butter, margarine and cheese in 1954. The immediate response to de-control was generally a sharp rise in prices, cheese being the only exception. The longer-run effects were different. Butter, margarine, cheese (and also eggs) tended to decline in price after 1954. On the other hand, meat prices rose considerably on de-control and continued to rise throughout 1954–55. Consumer demand for meat was expanding, supplies were relatively short, import prices were hardening and domestic prices were catching up with the much higher level of world prices of meat. On the demand side, too, there was probably a psychological factor at work, left over from rationing—the relief of being able to buy meat, no questions asked about price. On the supply side, as Devons has pointed out, there was evidence that distributive margins increased very substantially.[1] The widening of margins, with consumer demand expanding and import prices rising, may well have applied also in the distribution of fruit and vegetables. But definitive evidence on this point is lacking.

Table 2 shows clearly that the rise in food prices in 1953–55 was large but concentrated on a few items: meat, tea, fruit and vegetables. Fats and dairy produce show practically no net price change over the period and prices of manufactured or processed foods followed the pattern of a slow rise set by other manufactured goods.

Having contributed to a general inflationary rise in prices, food prices tended to settle down after 1955. If allowance is made for the price increases in bread and in milk following the cut

---

[1] E. Devons, "The Wage-price Spiral," *District Bank Review*, September, 1956.

TABLE 2

MOVEMENTS IN RETAIL FOOD PRICES FOR INDEX FAMILIES

Food Sub-group	Weight*	Per cent. increase in prices (October to October)		
		4 years 1953–57	2 years 1953–55	2 years 1955–57
Increases above average:				
Fruit	19	56	30	19
Vegetables	33	46	34	9
Tea, soft drinks, etc.	22	27½	26	1
Fish	9	25	10	13
Bread, flour, etc.	52	21	2	19
Meat and bacon	89	20	26	–4
Increases below average:				
Milk (full price)	†	14	—	14
Other food	15	11	5	5
Sugar, preserves and confectionery	39	6	5	1
Other milk, cheese, eggs ..	†	–2	5	–6
Butter, margarine, etc.	19	–8	—	–8
All food	350	18·2	13·3	4·3

* Consumption of group of index families in 1953–54 valued at prices of January, 1956.

† Weight of "milk, cheese and eggs" sub-group is 53, divided about half and half between full-price milk (for which movements in the standard price are taken here) and the rest of the sub-group.

in subsidies in 1956, there was very little if any net change in food prices from October, 1955 to October, 1957. There were substantial increases in prices of fish, fruit and vegetables, offset by declines for butter, margarine, cheese, eggs, pork and bacon. It is difficult to resist the conclusion that, if all this had happened earlier, the habit of raising prices (and wages) at the drop of a hat might not have spread so far and so wide.

PROSPECTS

The general impression conveyed by the analysis is that the inflationary price rise of the last four years could well have been stopped during its ragged early stages.[1] Undoubtedly there was some excess of domestic demand, particularly for certain commodities (e.g. meat). Undoubtedly, therefore, there was room for the operation of the costs-prices-costs cycle. For some time serious price increases were confined to a limited number of sectors—services, fuel and light, and the foodstuffs most affected by de-control and expanding demand. A strong and firm attack on these sectors may well have resulted in a stable price level at retail. It was still possible then to absorb higher wages through increased productivity in manufacturing, and retail prices of many manufactured goods were constant. This damping factor did not lose its force until 1956, when the rise in industrial production seemed to have lost its impetus. By then, the impression had grown that prices generally, and food prices in particular, were rising fast, that inflation had come to stay.

---

[1] At the time it was almost impossible to envisage the subsequent effects of a rise in prices of a few critical items, or to countenance any attempt to keep down prices, encouraging demand already excessive in relation to current prices. Even now, looking back to 1954, I find it difficult to be completely precise in what could have been done. But it does seem that the inflationary forces could have been halted if there had been greater willingness to allow subsidies to continue, stabilising prices of de-rationed items, and if earlier action had been taken to mop up surplus liquidity, otherwise available to finance inflation.

All this is being wise after the event. The question is, what are the chances of stopping inflation now that it has become something of a habit ? As far as retail prices are concerned, I would offer the following comments. The objective is to achieve a stationary price level, or at least one rising slowly. This means that any price rises must be approximately offset by price falls. In a dynamic economy with shifting demand and under given political and institutional conditions, some prices must rise. It is perhaps inevitable that housing and fuel prices will rise further. Certainly the prices of many service items, and of goods with a high service content, must continue to rise. It can be maintained that some services are under-priced in relation to the demand for them. In any case, the expansion of demand may well be concentrated on the service element—direct services such as hairdressing and indirect services like packaging or grading and preparation of meat, fruit and vegetables. Strictly, any price rise due to a quality change associated with better service should not appear in the retail price index, but in practice it is likely to be regarded as a price rise and also to have its effect on the index.

Some offset in the form of price reductions is thus required. It is quite possible to look for cuts in prices of manufactured goods during a period of rapidly advancing technology. However, my guess is that, while manufactured goods prices may fall in the long run, they are not likely to contribute much in the very near future. There has recently been a quite general price advance among retail prices of manufactures; they may well settle down at the higher level, as they did after 1951, but no more.

There remain food prices which we know can easily decline; witness recent experience both in this country and in the United States and elsewhere. Indeed, food prices are apt to change rapidly, downwards as well as upwards, in response to changing conditions of supply and demand. Prices of many imports of foodstuffs have recently declined, without being fully reflected in prices in the shops. Distributive margins on some foods have widened and are vulnerable. There are food prices (e.g. cheese) which may well have fallen so much that further declines are unlikely. But other prices have remained high and could give way. Critical items for a variety of reasons are meat, fruit and vegetables—and milk and potatoes with their guaranteed prices. Between them these have a weight of well over 15 per cent. in the all-items index of retail prices. It does not seem at all unlikely that food prices, having worked in one direction up to 1955, should now begin to work in the reverse direction.

I do not by any means ignore the interdependence of prices, incomes and costs. If a nearly stable level of retail prices is achieved, particularly through a decline in food prices in the shops, then demands for higher incomes will be pressed less hard. If industrial production is expanding and productivity rising, and if excess demand is siphoned off, then reductions in prices of manufactured products become possible. The balance between inflation and deflation is a delicate one, and I have given a formidable set of " ifs " in my indication that it might be achieved.

PRICE MOVEMENTS FOR DIFFERENT GROUPS OF CONSUMERS

During various periods since 1949 the price movements of different commodity groups have been diverse (Table 1). Further, different categories of consumers lay out their expenditures in very different ways. For example, foodstuffs represent 35 per cent. of the budget of index families; but the proportion is under 25 per cent. for high income families and over 40 per cent. for " pensioner " families of two persons. It is to be expected, therefore, that the overall effect of the diverse price movements will vary from one category of consumer to another. In other words, an all-items retail price index is to be expected to increase faster when calculated for one group of consumers than for another group.

In fact I shall show that, for the years since 1949, this is not so; there has been very little difference between the effect of price changes on one type of consumer and the effect on another type. Some compensation is to be expected; no category of consumers is unlucky enough to concentrate its expenditure on just the things which have gone up most—of the major items in anyone's budget, some will have risen fast in price and others not. What is surprising is how perfectly this compensation has worked out since 1949, despite very diverse price movements and great differences in consumption patterns. This need not always be the case; it is, therefore, worth while pursuing the matter a little further.

I distinguish several consumer categories, as in the Ministry of Labour's *Report* on the 1953–54 Expenditure Enquiry. First, there are *pensioner families* (of one, two or more persons), defined as those with at least 75 per cent. of total income from National Insurance (or similar) retirement pensions and/or National Assistance in supplementation or instead of such pensions. Next, there are *high income families* where the head of the household has recorded a total income of £20 a week or more in 1953. Finally, there are *index families*, all the rest. Among these I will distinguish, according to the occupation of the household head, families of *manual employees* and of *clerical and professional employees*.

Appendix II shows the distribution of the weights of an all-items retail price index appropriate to each consumer category. These are based on the expenditure patterns disclosed by the 1953–54 Enquiry, each adjusted (as in the present Ministry of Labour index[1]) to make it apply to a price index with January, 1956 as 100. The adjustments comprise:

(i) Elimination of certain payments (income tax, savings, capital sums, insurance premiums, betting, etc.) outside the scope of the index.
(ii) Augmentation of certain expenditures (drink, tobacco, meals out, ice cream, sweets and chocolates) known to be under-recorded in the 1953–54 budgets.
(iii) Allocation of certain expenditures (e.g. meals out, fish and chips) to other groups since no direct pricing of the items is attempted.
(iv) Adjustment of the results from prices of 1953–54 to those of January, 1956, and finally scaling to a total of 1,000.

The weights given in Appendix II show how much the expenditure patterns do in fact vary, from one family type to another.

Each of the set of weights is applied to the price series of Appendix I to obtain an all-items retail price index for 1953–57 and for each family type concerned. The results are given in Appendix II. For the group of index families as a whole, this process reproduces the official (Ministry of Labour) index in 1956 and 1957. For other family groups, the calculation gives an *approximate* price index for each group. It is approximate since it is based on the assumptions that the price movements of Appendix I apply equally to the purchases of all family types, and that the varying internal weighting within the sub-groups used can be neglected.[2] Further, a rough estimate of price movements is made for each family type for the earlier period, 1949–53.

The all-items index numbers for various consumer groups are found to be very little different. They can be summarised:

TABLE 3

RETAIL PRICE INDEX NUMBERS FOR DIFFERENT GROUPS OF CONSUMERS

Group of Consumers	Per cent. increase in prices (October to October)			
	4 years 1949–53	4 years 1953–57	2 years 1953–55	2 years 1955–57
Pensioner families:				
One person	28	20·2	9·4	9·9
Two persons	26	17·9	8·5	8·7
Index families:				
Manual employees	24	15·9	7·0	8·2
Clerical and professional employees	24½	16·3	6·7	8·9
All index families	24	16·1	7·0	8·5
High Income families	24	16·1	6·1	9·4

---

[1] See *Method of Construction and Calculation of the Index of Retail Prices*, H.M.S.O., 1956.

[2] Note that it is *not* assumed that all families pay the same prices for (e.g.) meat or housing—only that the prices (whether high or low) move by the same percentage amounts from month to month.

The only difference of significance is for pensioner families. Single pensioners living alone so distribute their expenditure that the combined effect of price rises in 1953–57 is an increase of 20 per cent., as compared with 16 per cent. for the general run of (index) families. It might be thought that this result can be used, for example, to determine the adequacy of National Insurance pension rates. This would be dangerous. The pensioner families here distinguished are only two groups, i.e. single persons and couples living by themselves. The index numbers apply to these groups, but not to pensioners in general, including the majority who live in other families.

Even if the question is limited, e.g. to the adequacy or otherwise of pensions to single-person pensioners living alone, the index shown is not in itself necessarily appropriate. It includes rent and rates and yet pensioners living alone often have no incentive to adjust their housing costs to pension rates. Rent is quite frequently met, if not from private means, at least by National Assistance supplements. The index also includes clothing, furniture and appliances; expenditures on these items are scarcely relevant to pensions. The needs of pensioners here must be few, since they can, and often do, live on stocks accumulated earlier in life. If the price index number is adjusted to exclude housing, clothing and major durables:

TABLE 4

	Price index numbers, Jan. 1956 = 100 (October)				
	1953	1954	1955	1956	1957
All index families, all items	92·2	94·2	98·6	102·7	107·1
One-person pensioners:					
All items	90·1	93·0	98·5	102·9	108·2
Current items only*	88·9	92·2	98·8	102·7	107·4

* Excluding housing, clothing, furniture, appliances and furnishings.

It follows that, over the two years 1955–57 at least, the incidence of relevant price movements for single pensioners living alone is quite well represented by changes in the all-items index for the main group of families, as published by the Ministry of Labour.

The London School of Economics.

APPENDIX I

RETAIL PRICE SERIES, OCTOBER 1953–OCTOBER 1957

Sub-groups	Weight*	Prices (October each year), Jan. 1956=100				
		1953	1954	1955	1956	1957
FOOD:						
Bread, flour, etc... ..	52	98	97	100	115	119
Meat and bacon ..	89	82	91	103	101	99
Fish	9	88	91	97	102	110
Butter, margarine, etc. ..	19	95	96	95	93	88
Milk (full price) ..	53	100	100	100	107	114
Other milk, cheese, eggs		108	104	113	109	106
Tea, soft drinks, etc. ..	22	80	93	101	96	102
Sugar, preserves and confectionery	39	94	97	99	100	100
Vegetables	33	69	78	93	85	101
Fruit	19	72	79	93	100	111
Other food	15	93	94	98	101	103
DRINK AND TOBACCO:						
Alcoholic drink	71	98·3	98·5	100·0	102·6	105·7
Tobacco	80	97·5	97·5	97·9	105·3	107·8
HOUSING	87	92·2	94·6	98·0	104·5	114·1
FUEL AND LIGHT:						
Coal and coke	28	77	82½	94	102	108
Other fuel and light ..	27	91	92	97	103	112
CLOTHING AND DURABLES:						
Clothing	106	97·5	97·6	97·8	101·0	102·9
Furniture, appliances and furnishings	56	94	93	96	101	101
Hardware, etc.	10	86	87	91	103	100
MISCELLANEOUS GOODS:						
Books, newspapers ..	16	92	92	98	106	121
Medicines, toilet and cleaning items ..	26	96	97	97	101	108
Other goods	17	97	92	98	105	107
SERVICES AND TRANSPORT:						
Postage, telephones ..	6	98	99	100	109	136
Entertainment	23	95	97½	100	104	110
Other services	29	91	93	97½	106	111
Motoring and cycling ..	30	94½	95½	98	101	107
Travel	38	90	92	97½	105	115

* Consumption of group of index families in 1953–54 valued at prices of January, 1956 (expressed per 1,000).

APPENDIX II

WEIGHTS AND PRICE INDEX NUMBERS FOR DIFFERENT GROUPS OF CONSUMERS

	Pensioner families		Index families			
	One person	Two persons	Manual employees	Clerical, etc. employees	All	High income families
Number in Enquiry	461	318	6,997	1,256	11,638	460
Weights per 1,000:						
Bread, flour, etc.	62	61	54	42	52	29
Meat and bacon	102	111	94	77	89	60
Fish	13	15	9	8	9	8
Butter, margarine, etc.	25	28	21	17	19	10
Milk, cheese, eggs	72	70	55	52	53	40
Tea, soft drinks, etc.	33	32	23	18	22	15
Sugar, etc.	31	36	42	38	39	28
Vegetables	34	35	36	29	33	19
Fruit	19	19	20	22	19	19
Other food	8	9	12	12	15	12
Total food	399	416	366	315	350	240
Drink and tobacco	52	127	168	117	151	126
Housing	185	126	75	107	87	96
Coal and coke	96	62	27	25	28	20
Other fuel and light	54	43	26	27	27	25
Total housing, fuel	335	231	128	159	142	141
Clothing	49	69	103	109	106	127
Furniture, etc.	25	29	55	74	56	48
Hardware, etc.	8	8	9	12	10	14
Books, newspapers	18	17	15	16	16	14
Medicines, etc.	30	32	26	26	26	20
Other goods	4	7	15	19	17	21
Total other goods	134	162	223	256	231	244
Postage, telephones	6	6	4	8	6	10
Entertainment	15	11	25	20	23	24
Other services	39	23	22½	33	29	115*
Motoring and cycling	—	2	25½	47	30	75

APPENDIX II—*continued*

	Pensioner families		Index families			
	One person	Two persons	Manual employees	Clerical etc. employees	All	High income families
Number in Enquiry	461	318	6,997	1,256	11,638	460
Travel	20	22	38	45	38	25
Total services and transport.. ..	80	64	115	153	126	249
Price index, all items Jan. 1956=100						
October 1953..	90·1	91·0	92·1	92·2	92·2	92·7
1954..	93·0	93·7	94·2	94·1	94·2	94·4
1955..	98·5	98·7	98·6	98·4	98·6	98·4
1956..	102·9	102·7	102·6	102·7	102·7	103·0
1957..	108·2	107·3	106·8	107·2	107·1	107·6

* Includes educational expenditure.

NOTE.—Weights are based on consumption in 1953–54 (adjusted), valued at prices of January, 1956.

Behaviourist Cardinalism in Utility Theory[1]

By Tapas Majumdar

I

There is one tacit assumption underlying the usual variants of ordinal-utility theory that any situation appearing as an alternative end confronting the individual is to be regarded as a " sure prospect ". In other words, it is assumed that no element of uncertainty enters into the individual's prospect of gaining a stated end. Granting this simplifying assumption, we are more or less able to dispose of the cardinalist claim to absolute measurability of utility. Neither in formulating a general demand theorem, nor from any other operationally significant consideration is it *necessary* to admit the cardinalist hypothesis in utility theory.[2] Whether, as has frequently been claimed, we have to qualify or even abandon this conclusion in the presence of uncertainty, is a question which occupies our attention in the present paper.[3]

It is easy enough to see that any type of utility theory would be futile in the presence of *pure* (complete) uncertainty. So long as uncertainty could be ruled out, it would be axiomatic both in ordinalist and in cardinalist theory that a larger amount of the same commodity is necessarily preferred to a smaller amount. This is the basic axiom of rational choice without which neither the cardinalist nor the ordinalist could build up a workable utility theory. And it is this axiom which breaks down with the introduction of pure uncertainty: it can no longer be regarded as obviously rational, for example, that two birds (in the bush) should be preferred to one (in hand).

What is true of *pure* uncertainty is also true of *measurable risk* at least as far as the ordinalist theory is concerned. There can be no *ordinalist* ground for retaining the rationality axiom in the form, say, " a more than 50 per cent. chance of catching two birds in the bush is worth more than having one in hand ". It has been the contention, however, of a large group of cardinalists in recent years that measurable risk, far from presenting an obstacle in the way of measuring utility, actually provides a method for the operational verification of a cardinal-utility hypothesis. This particular type of neo-cardinalist revival has drawn its inspiration largely from the work of Oskar Morgenstern and J. von Neumann,[1] though it is to Milton Friedman and L. J. Savage[2] that the presentation of the theoretical issue is mainly due. The present paper is devoted to an examination of the Morgenstern-Neumann type of utility theory in the context of situations involving measurable risk.

---

[1] The present paper forms part of a study undertaken at the London School of Economics under the supervision of Professor Lionel Robbins and Dr. George Morton. All responsibility for the views expressed in it is, of course, the author's own.

[2] See, for example, J. R. Hicks, *A Revision of Demand Theory*, Clarendon Press, 1956, ch. II, for an exposition of the usual 'Occam's razor' argument implied here. The consideration, however, that cardinal theory necessarily obscures the precise distinction between the income-effect and the substitution-effect of a price change, thereby thwarting the formulation of a true demand theorem, would suggest that the case against cardinalism (at least in any of its operationally meaningful forms) is even more positive.

[3] For an extremely lucid (but somewhat different) exposition of the question, see S. A. Ozga, " Measurable Utility and Probability: A Simplified Rendering ", *Economic Journal*, September, 1956.

II

It is necessary first of all to emphasise that the cardinalists following Morgenstern and Neumann have an important thing in common with the ordinalists like Samuelson and Little: they share the same behaviourist methodology. Thus ' utility ' is defined by the former, as by the latter, in terms of actually observed behaviour. But what distinguishes the Morgenstern-Neumann type of definition is that it is *statistical*, so that utility is inferred from a number of observations and not from a single act of choice.[3]

It is possible to define preference in statistical terms both in a ' strong ' and a ' weak ' sense. If the individual is observed *always* to choose a situation, say, *P*, rather than a situation, say, *I*, regardless of the number of observations made, then *P* may be defined to be preferred to *I* in a *strong* sense. Thus we may consider a set of situations such as *P* each of which is ' strongly ' preferred to *I*. Similarly if the individual is always found to choose the situation *I* rather than, say, a situation *R*, then we may say that I is 'strongly' preferred to R. And so we may consider a set of situations such as R, each of which will always be rejected when compared to I. Now, between the situations belonging to set P (in the presence of which I is never chosen), and the situations belonging to set R (in the presence of which I is never rejected), may be conceived a set of situations in which the frequency of choosing (or rejecting) I rather than any belonging to that set would lie between zero and hundred per cent.

---

[1] *Theory of Games and Economic Behaviour*, p. 18.

[2] " Utility Analysis of Choices Involving Risk ", *Journal of Political Economy*, 1948; " The Expected Utility Hypothesis and the Measurability of Utility ", *Journal of Political Economy*, 1952.

[3] It would be only fair to add that Mr. Little himself feels quite unencumbered by questions of methodology, which, he is quite convinced, do not exist in Economics! (See I. M. D. Little, *A Critique of Welfare Economics*, Clarendon Press, Second Edition, p. 1.)

The exact methodological dilemma in utility theory is however, easily seen. Suppose that we wished to formulate the utility hypothesis so that (a) it would include the concept of ' indifference ', i.e., allow for ' weak ' ordering of alternative situations; (b) it would be based on the principle of single-event two-term consistency: so that if *A* is found to be preferred to *B* in any one situation, it is defined to be preferred to *B* for *all* situations; and (c) it would be defined entirely in terms of actually observed behaviour (in other words, the definition of utility would be econometric). It would be obvious that we may choose *any two* of the three elements to constitute the foundations of utility theory; but we may not choose all three at the same time!

Thus (a, b) gives us the usual Hicksian hypothesis: indifference-preference, two-term consistency, but not econometric definition ; because ' indifference ' cannot be expressed through any *single* act of choice. And (b, c) would be the method of Samuelson and Little, necessarily ruling out ' indifference'. Finally we may have (c, a) which would yield the *statistical* Morgenstern-Neumann type of theory admitting the concept of ' indifference ' at the expense of the requirement of ' single-event two-term consistency '. Incidentally, the recent Hicksian ' Revision ' of demand theory appears to be based on a complete lack of appreciation of this basic methodological ' tragedy '! (See *Revision of Demand Theory*, Part I. Foundations.)

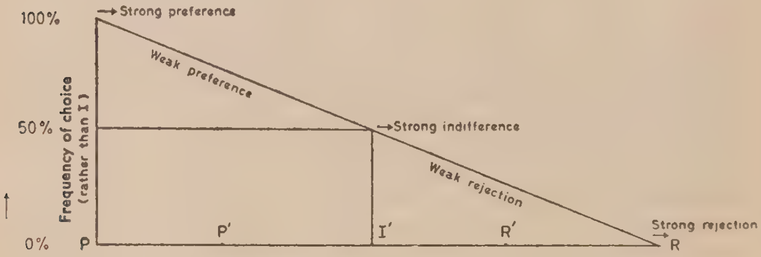

Diagram showing statistical definitions of indifference-preference with respect to I

When a situation belonging to the intermediate set is presented as an alternative to I, we can no longer predict the individual's choice for any single occasion. We may say that the individual is in a state of indifference (to be understood in a 'weak' sense here) between I and any member of the intermediate set. *Or alternatively*, we may define any situation P' (say) to be *preferred* to I in a *weak* sense, if over a number of observations the individual is clearly found to be choosing P' more frequently than I. Similarly, we may have R' (say) to which I is preferred in a weak sense. Finally we may conceive of such a situation as I', which when presented as an alternative to I is chosen quite as frequently as I is. We may define I' to be in a state of *strong* indifference with I.

Let us consider some of the immediate implications of the statistical approach towards the definition of preference and indifference. In the first place, if the individual is found to take, say, X rather than Y in any one single instance and Y rather than X in another, then we must first decide whether the statistical evidence refers (a) simply to a *change* in the individual's scale of preferences or (b) to the absence of strong preference (and therefore the existence of weak preference *or* indifference) between X and Y. A moment's reflection would show that no answer to this question may be offered which can satisfy the behaviourist criterion of meaningfulness. No amount of observation can refute or verify the hypothesis that the individual's preference pattern has not itself undergone a change during the process of observation! And surely, without some such hypothesis the description of an observed frequency of choice as " preference " or " indifference " sounds illegitimate. The behaviourist theory, therefore, cannot claim for itself (as it certainly does) the right of *predicting* individual behaviour without flouting its own rule of admissibility of hypotheses! This curious concession to the introspectionist (hypothetico-deductive) method however, it must in fairness be admitted, manages to save " positive " economics from complete barrenness.

Granting (however inconsistently) that it *is* possible to decide whether a change in the scale of preferences has (or rather, has not) taken place *without* having to introduce a fresh non-operational hypothesis, the statistical definitions of preference and indifference are still not completely free from ambiguity. Faced with two contradictory single instances and assuming that preferences *have not* changed, we still must decide whether the evidence refers to (a) a relation of weak preference or (b) one of indifference. With only two observations to go upon, the question clearly must remain undecided. Even when there can be more than two observations, we may interpret ' preference ' and ' indifference ' operationally *only on the basis of a procedural resolution*, because how many observations constitute the right sample must necessarily be somewhat arbitrarily decided. We shall presently see that the problem of choosing the right size of the sample is inextricably connected with the more familiar question of two-term consistency.

The emergence of weak preference or statistical indifference at once raises the question: what happens now to the requirement of two-term consistency? Obviously it would no longer do to say that a person choosing X rather than Y in one single instance while choosing Y rather than X in another, is behaving inconsistently. But surely without an operationally meaningful definition of consistent behaviour on the basis of which predictions can be tested, the behaviourist theory loses all content? It can be shown that the question " what constitutes consistent behaviour? " cannot be answered in statistical terms except in the context of our question " what is the minimum size of the sample on which the preference hypothesis can be based? ". A simple illustration would perhaps be useful in bringing out the vital relationship between the two questions. Let us suppose that an individual is observed to exercise his choice between two alternatives X and Y, and that the following observations are made: X is chosen in the first and the third instances; Y is chosen in the second, the fourth and the fifth. Clearly on the basis of the first three observations X is found preferred to Y; on the basis of the first four the relation between X and Y appears to be one of indifference; on the basis of all five Y is found preferred to X. Had we been invited to predict this individual's behaviour over a large number of cases from the first three, four, and five observations respectively, what justification in each case should we have in making a forecast? Conceivably none, excepting the hypothesis that the individual *would* behave on the whole consistently with his *so-far-revealed* preference. But what if the individual does behave inconsistently with his *so-far-revealed* preference? Is he to be pronounced inconsistent by the behaviourist? By no means; for he is now discovered to have been behaving perfectly consistently with his *now-revealed* preference! So long as consistency is defined relatively to the *totality* of observations made, its definition remains necessarily circular. Unless, therefore, a somewhat arbitrary procedural restriction (determined by sampling theory) is imposed upon its meaning, no man can be found inconsistent *ex post* though the best of forecasts goes wrong.

III

The assumption of a weak *but* consistent preference (indifference) relation between two objects is capable of rational explanation on the basis of either (or both) of two possible hypotheses. According to the first, the individual is taken to be quite unable to *discern confidently* between the two objects concerned: he can show his preference (or indifference) only with hesitation; he therefore occasionally chooses even the less desirable alternative (perhaps just to make sure). This hypothesis *does not* imply that the objects of choice before the individual are themselves uncertain; it is only that the distinction between them from the point of view of the individual's welfare is not clearly discernible to him.

According to the second hypothesis weak preference would imply that the individual does not regard the two objects (or at least one of the two) concerned as " sure prospects ". This would mean that the individual has to choose between a given probability of having (i.e., a certain risk of not having) one object and a different probability of having (i.e., a different risk of not having) another. The hypothesis *would not* imply that the individual cannot discern confidently between two sure prospects, which would be the case under the first hypothesis. We have argued elsewhere[1] how the former hypothesis leads logically to the introspective marginal preference theory of W. E. Armstrong which provides the non-behaviourist account of the cardinalist revival; it is the latter which forms the basis of the behaviourist cardinalist theory.

It must be made clear however that the rational " explanation " of weak preference forms no part of behaviourist theory in an operational sense. It is enough for the purpose of an operationalist to be able to hold that individuals behaved *as if* consistent weak preference existed. Similarly it is possible to add a second " explanatory assumption " in the next stage of the behaviourist argument which may help us understand *why* the individual should be expected to behave according to the behaviourist hypothesis, viz., that he always chooses that prospect of which the *statistically* expected value is the maximum. Needless to emphasise that the behaviourist argument is again satisfied *if* the individual is observed to behave so as to confirm the hypothesis.[1] But since it should help *us* to place the behaviourist argument in its proper perspective, we must briefly note the nature of the possible " explanation " behind the statistically-expected-utility-maximization hypothesis.

---

[1] " Armstrong and the Utility Controversy ", *Oxford Economic Papers*, February, 1957.

If the existence of risk provides the explanation of the phenomenon of weak preference, which means that the frequency of choice is less than hundred per cent, it is not unreasonable to expect that other things being equal, the frequency of choice would vary (inversely) with the degree of risk involved. Or in other words, given the degree of risk *and* other things, the frequency of choice should be invariant. Now, if we could add that given the degree of risk, the frequency of choice varies with the *intensity* of preference, then this frequency could surely serve as a measure of relative preference under conditions of known risk.

But when we assume that under conditions of measurable risk the individual expresses his relative preferences in terms of the frequency of his choices, then we are also assuming something else; because we can expect the individual to express his preferences statistically *and* rationally only if he has reasons to believe that he would have to take the same choice decisions an indefinitely large number of times. Given this assumption, no wonder that the consumer should be expected to evaluate his ' prospects ' in times of statistical probability *and judged over a large number of cases* appear to act *as if* he is maximising the statistically expected value of his ' utility '; which precisely is our neo-cardinalist utility hypothesis.

IV

A cardinal-utility index is simply derived from the neo-cardinalist hypothesis thus. Suppose that the individual is faced with three alternatives X, Y and Z. Suppose also that in the absence of risk, the individual prefers X to Y; Y to Z; and therefore X to Z. Let us now introduce a probability p (say, $= \cdot 6$) in the prospect of X, associated with a probability of $(1–p)$ of Z. Suppose that the individual is observed to prefer the prospect $X_{(p=\cdot 6)}, Z_{(1-p=\cdot 4)}$ to the certainty of Y. Let us now reduce the value of ' p ' and so manipulate it as eventually to arrive at the appropriate value (say, $\cdot 5$) for which the individual is found to be indifferent between the prospect X, Z and Y. Given the utility hypothesis, the individual evaluates his prospects statistically and equates,

$$p \cdot u(X) + (1-p) \cdot u'(Z) = u''(Y)$$

when $u(X)$, $u'(Z)$ and $u''(Y)$ represent the individual's utility levels associated with X, Z and Y respectively. If we now fix the arbitrary origin at Z (the value of the utility function being $= 0$ at Z), and so choose our scale that the value of the utility function at $Y = 1$, we find

---

[1] It is interesting, and somewhat reassuring, to note that the plain behaviourist attitude to " explanations " does not find favour at least with Marschak, one of the important exponents of the ' measurable-utility ' school. See, for example, his " Rational Behaviour, Uncertain Prospects and Measurable Utility ", *Econometrica*, 1950.

$$p \cdot u(X) = 1$$

Remembering that the relevant value for 'p' was $= \cdot 5$, we get the value of the utility function at X to be $= 2$.

Thus the utility function is found to be measurable except for the arbitrary origin and scale; it is measurable, in other words, up to a linear transformation. This implies a higher degree of measurability of utility than is *normally* assumed by the ordinalist. (Ordinal measurability is usually assumed to be measurability only up to a monotonic transformation.)

The utility index worked out above can specify not only the signs of first differences (i.e., state the relative preferences), which is all that a monotonic transformation can retain, but also the signs of second differences (i.e., *order* the relative preferences themselves). If the individual is known to prefer A, B, C, D etc., in that order and no other information is available, the implied utility index is known to be unique only up to a monotonic transformation. If it is also known, say, that the individual prefers A to B more than he prefers B to C; prefers B to C more (or less) than he prefers C to D and so on, then the implied utility index is known to be unique up to a linear transformation. In the first case only A, B, C, D etc., could be ordered. In the second case we can also order the relative preferences of A over B; B over C; C over D etc. But we arrive at no absolute and *additive* quantities in the second case any more than we did in the first.[1]

If the *ordinal* measurability of a *change* in welfare (i.e., of marginal utility, if so defined) is all that the cardinalists have meant all along by a *cardinal* measurability of welfare (or utility), then the above index no doubt measures utility cardinally. But how many ordinalists would bother to deny that the sign(s) of second differences may be known from an index obtained under "ideal" conditions?[2] How many cardinalists would agree that this was all that their 'cardinalism' boiled down to? True, the Morgenstern-Neumann utility index is empirically more restrictive than one which is unique only for monotone transformations. But surely that does not make it either (a) a *quantitative* index or even (b) an index which would be more generally useful?

It is important to bear in mind that the Morgenstern-Neumann index is supposed to be meaningful *only* under conditions of measurable risk. It does not seek to replace the ordinal-utility index under any other conditions. Therefore, even if it were valid and useful, its applicability would be limited. How severely limited indeed it would be, even under those 'ideal' conditions which are the operationalist's constant resort, it is necessary for us now to realise.

---

[1] Cf. A. A. Alchian, "The Meaning of Utility Measurement", *American Economic Review*, vol. XLIII, 1953.

[2] Cf. Lionel Robbins, "Robertson on Utility and Scope", *Economica*, May, 1953 p. 104.

To have a situation in which the individual would ideally proceed in the neo-cardinalist manner in the choice of an object, say X, it is necessary in the first place to assume that the object itself is quantitatively measurable. Therefore, our X *cannot* be (a) an alternative '*social*' policy (preferring nationalisation to price control; education to defence; Jones to Smith as cricket captain); or (b) an '*indivisible*' alternative (preferring *The Manchester Guardian* to *The Times*). In the second place we have to assume that decisions involving the choice of X are observed to be taken in large numbers so that the chance of having X can be statistically calculated. The list of objects to be excluded from being 'X' on account of this assumption is likely to be so overwhelmingly large that we are almost tempted to invite the reader to include *any* 'real' item of consumption in his black list! In the third place, we assume that the statistically calculated risk is known to the individual. We need offer no comment on this rather convenient assumption except that it is certainly not obviously plausible. And finally, we make the crucial assumption that this knowledge of the statistical risk is *relevant* information for the individual, which it would be *only if* the individual *himself* is expecting to take the decision of choosing X a large number of times. How many decisions, even under the ideal conditions, can satisfy this last requirement?

What then are we finally left with, which can conceivably qualify for being 'X', the ideal Morgenstern-Neumann object? What object could it be that was at the same time, (a) itself quantifiable; (b) observed to have been chosen in large numbers; (c) having its 'risk-co-efficient' attached to it as a tag for the consumer to see and also (d) expected to be offered to the same consumer a sufficiently large number of times so that the 'risk-tag' would provide him with a genuinely useful guide to rational behaviour?[1]

The object, we venture to say, which does satisfy more or less all the different conditions and thereby reasonably qualify for being the Morgenstern-Neumann 'X' almost suggests itself: the ideal 'X' would be a simply calculable *money-prize in a controlled game of chance.* Little wonder, therefore, that the celebrated Mosteller-Nogee "experimental verification" of the cardinal-utility index should happen to be a study of behaviour of men playing *suitably simplified* dice-and-poker games![2]

London School of Economics.

---

[1] It is rather baffling that these considerations do not weigh too heavily on the neo-cardinalist's conscience and we continue to be assured of the richer "empiric content" of the Morgenstern-Neumann index! Cf. Friedman & Savage, "The Expected Utility Hypothesis and the Measurability of Utility", *Journal of Political Economy*, 1952.

[2] F. Mosteller and P. Nogee, "An Experimental Measurement of Utility", *Journal of Political Economy*, October, 1951.

The Theory of the Economic Effects of Government Expenditure in English Classical Political Economy[1]

By B. A. Corry

One of the main consequences of the supremacy of classical orthodoxy in the controversy concerning the possibility of general overproduction (" general glut "),[2] was the suppression of any attempt to regard government expenditure as a conceivable " offset " to a failure of private spending. Although it is clear that by 1850 most Keynesian elements had been purged from official economic teaching, victory did not come easily. It was Lord Keynes himself who reminded us of Malthus's contribution, and since then students of the history of economic doctrine—abandoning their old love, " originators of the quantity theory "—have diligently sought out other " early Keynesians ".[3]

It is the purpose of this article to examine the application of the theoretical principles involved in this general debate to a specific controversy—namely, the alleged economic effects of government spending. Thereby it is hoped to shed some additional light on the reasons why the unorthodox writers, referred to above, failed to make any considerable breach in the structure of classical macro-economics.

The writers dealt with here are only those who explicitly analysed the effects of government spending; this means that certain of the " unorthodox " contributors—Chalmers, Rooke and Lalor e.g.—have had to be excluded even though their theoretical insight may ultimately have been more profound than those writers considered below.

It should also be emphasised that for reasons of space we are here only dealing with the broad theoretical issues, we shall hence not discuss the problem of the form of government receipts and payments (this means e.g. that we do not consider the controversy over the " Sinking Fund"), nor do we analyse the large pamphlet literature concerned with the different types of public works programmes.[4]

---

[1] The author is indebted to Professor Robbins for much invaluable advice and criticism.

[2] This controversy is normally thought of in terms of Ricardo versus Malthus; although this is perhaps the " highlight " of it, it should be pointed out that most of the arguments there advanced had been stated earlier by such writers as Lauderdale and William Spence.

[3] Keynes was not the first to notice this aspect of Malthus's economics: as early as 1851 John Lalor had remarked, " Malthus, I conceive, has higher claims to a place in economic history than those derived from his celebrated theory of population ".

[4] Some of this literature has a startling modern ring about it: for example, Richard Preston in his *Further Observations on the State of the Nation* (reprinted in the *Pamphleteer*, No. XVII, Vol. IX) suggests the formation of a " National Road through the British Empire "; this would have a multiplier effect whereby the " money expended in each part of the country would give activity to the manufacturing trade

Suggestions that government spending might increase the level of economic activity go back, of course, far beyond the nineteenth century; we may think, for example, of writers such as Petty[1] and Berkeley.[2] It is convenient however to regard the nineteenth century writings as a new phase in this literature, for faced with a new orthodoxy in the form of the Smithian edifice it was necessary for the underconsumptionist advocates (who would clearly tend to favour government spending) to argue for the first time against a logical coherent system.

Our discussion begins with Lauderdale. Certain views in his *Inquiry into the Nature and Origin of Public Wealth, and into the Means and Causes of Its Increase*, 1804, set the tone for future works in this field.[3] His main worry is the possibility of overutilisation of resources in investment goods industries. It is not that potential saving may not materialise as actual investment which creates the difficulty, but rather that, given that savings are automatically invested, there must be a " correct " capital-income ratio.[4] To go beyond this ratio was, for the individual, " detrimental to himself ", and for society " it is still more disadvantageous, because it diverts the channel of its industry from a path, in which it must be useful, to a path in which, unless there is either an acquisition of territory, or, a discovery of new means of supplanting or performing labour by capital, it is useless to mankind ".[5]

According to Lauderdale there was no automatic mechanism operating within the economic system to ensure that the correct saving-output ratio was attained. Consequently it was possible, so he believed, for oversaving to lead via a falling rate of profit, to overproduction and a general glut in the economy. Given this state of affairs it was clearly possible for Lauderdale to suggest that government spending might be used to absorb the excess capacity existing in the economy. He claims that if " £15,000,000 a-year extraordinary were levied by the Government from the revenue of its subjects, to defray the charge of warfare or any other extraordinary expenditure; as this money would be expended in articles of consumption, as fast as assumed, the expense of the Government would effectually counteract the effects of the parsimony it renders necessary, and creates in the subject ".[6] And, of course,

---

of that district " and also " the surplus labourers of each district might be engaged on the part in the immediate vicinity of their habitation without assembling too many persons into one district or at one place, and thus producing riots ".

[1] Sir William Petty, *Treatise of Taxes and Contributions*, 1662.

[2] Bishop Berkeley, *The Querist*, 1735.

[3] The *Inquiry* is his *magnum opus*; he did, however, write several tracts on the Sinking Fund which are important in this connection; perhaps the best of these is *The Sinking Fund, or the System which Recommends Levying Five Millions by Taxation for the Redemption of the Public Debt*. Printed privately, 1822. In the field of monetary economics Lauderdale was a strong Bullionist and this contrasted most vividly with his real output theory; cf. his *Thoughts on the Alarming State of the Circulation, and on the Means of Redressing the Pecuniary Grievances in Ireland*, 1805.

[4] " Correct " in the sense of preventing cyclical fluctuation.

[5] *Ibid.*, p. 216.

[6] *Ibid.*, pp. 244–45.

although total expenditure would remain constant—at least in the short run—the effect of the government spending would be to lower the saving-income ratio.

Lauderdale concludes his analysis with a most prophetic utterance. " Those . . . who have the management of the Public Treasury on the return of peace ", he advised, " must be careful, on the one hand, lest, from the abstraction of demand to the amount of six millions, the price of commodities be reduced to such a degree as to discourage reproduction; they must be cautious not to mistake, for the effects of abundance, *that which in reality may be only the effect of failure of demand* ".[1]

The next writer to be considered—William Spence—is important not so much for his own contributions, but rather for the two famous replies that his work elicited. His *Britain Independent of Commerce*, 1807,[2] was answered by Robert Torrens in *The Economists Refuted*, 1808,[3] and by James Mill in his *Commerce Defended*, 1808.[4]

Spence's book is a strange assortment of Physiocratic dogma, crude underconsumptionist theory,[5] and a modicum of genuine insight into the workings of the economic mechanism. His main purpose, as the ponderous title suggests, was to show that England could survive without any ill effects the *Code Napoléon*, thus any theorising which emerged was essentially subservient to this primary end. His analysis proceeds by way of a fourfold division of the economy into (a) landowners, (b) cultivators, (c) manufacturers and (d) an unproductive group; and the sequence of events—or the circular flow of income—was as follows : the focal point of the system was given by the income of group (a), this provided the dynamic without which the economy could not function, and this income was made up of rent payments from group (b), whilst its disbursement to groups (c) and (d) provided their income and enabled them to pay for agricultural produce from group (b) : thus the circle could be finally completed by group (b) paying rent.

Now Spence argued that it was essential for equilibrium that group (a) spent the whole of their receipts immediately, and that all saving, whether in the form of hoards or loans, would constitute a leakage from the income stream. " It is clear ", he states, " that expenditure, not parsimony, is the province of the class of landed proprietors, and that it is upon the due performance of this duty by the class in question, that the production of national wealth depends ".[1]

---

[1] *Ibid.*, pp. 263–64. Italics original.

[2] Full title: *Britain Independent of Commerce; or, Proofs Deduced from an Investigation into the true Causes of the Wealth of Nations, that our Riches, Prosperity, and Power, are derived from sources inherent in ourselves, and would not be affected, even though our Commerce were annihilated.*

[3] Full title: *The Economists Refuted; or, An Inquiry into the Nature and Extent of the Advantages Derived from Trade: and an Appendix, Discussing the Policy of Prohibiting Corn in the Distilleries.*

[4] Full title: *Commerce Defended: an Answer to the Arguments by which Mr. Spence, Mr. Cobbett and Others have Attempted to Prove that Commerce is not a Source of National Wealth.*

[5] There is an important historical link between Physiocracy and underconsumption; on this facet, cf. the excellent article by R. L. Meek, " Physiocracy and Early Theories of Underconsumption ", *Economica*, 1950.

Spence is using here the same line of reasoning as Lauderdale; it is not that savings are not spent that causes the trouble, but that they add to the stock of capital equipment and hence upset the capital-output ratio. " Let it not be urged ", he comments on this point, " that as this supposed sum would not be hoarded . . . but would be lent on interest: it would still be employed in circulation, and would still give employment to manufacturers. It should be considered that money borrowed on interest, is destined, not for expenditure, but to be employed as capital; that the very circumstance of lessening expenditure, decreases the means of the profitable employment of capital, and, consequently, that the employment of the sum alluded to as capital, would in no degree diminish the hardships of those who have been deprived of the revenue derived from its expenditure."[2]

The logic of all this was that there were times when governmental expenditure would have beneficial effects on the economy.

Robert Torrens, in his reply to Spence, seemed to accept the possibility of a case for government spending.[3] Arguing within the framework of Spence's four-sector model, Torrens considers the effect of a decline in foreign trading; if the landed proprietors previously spent their incomes on imported manufactures, they must quickly find a source of home supply, otherwise " while the land proprietor is acquiring new wants, and the manufacturer learning to supply them, a diminution takes place in the effectual demand for provisions; the value of the farmers' produce is reduced, and the income that should purchase the home made luxuries ceases to exist ".[4] The problem then was to stabilise demand for if this could be achieved no " stagnation or stress would be felt, except what might arise from the loss of the wealth which was formerly created by the foreign division of labour ".[5] And he concluded that in " countries where the important truths of political economy are understood, Government may in a greater measure obviate the indirect distress which an interruption of commerce occasions. For by affording a regulated and temporary relief to the unemployed manufacturer, it may render him an effectual demander of provisions, and thus prevent the diminution of the revenue of the land proprietor, until he acquires new desires, the gratification of which shall create a new demand for labour."[6]

---

[1] Spence, *op. cit.* (sixth edition), p. 36.

[2] *Ibid.*, pp. 30–31.

[3] Spence's main argument—the Physiocratic one—that agriculture alone was a source of wealth was, of course, completely refuted by Torrens.

[4] Torrens, *op. cit.*, p. 57.

[5] *Ibid.*, p. 58.

[6] *Ibid.*, p. 61. The first edition of *The Economists Refuted* is extremely rare. There is a copy in the Marshall Library, the copy normally used is that reprinted as an appendix to *The Principles and Practical Operation of Sir Robert Peel's Act of 1844 Explained and Defended*, 1857; but this is not simply a reprint as is often supposed, the 1808 edition has numerous minor differences and a chapter 6, " The Important Question of Peace or War ", which does not appear in the 1857 edition. In this additional chapter Torrens again refers to the possibility of governmental

James Mill's reply is closely patterned upon *The Wealth of Nations*; this is an important point to note because it is often claimed that *Commerce Defended* contains the first English statement of *Say's Law*: it seems to the present writer that the use of the latter term is so fraught with ambiguities as to proscribe its use;[1] what is clear however is that Mill's main theoretical argument against Spence consists of a reiteration of Adam Smith's "saving is spending" dictum. Mill assumed that a decision to save created an equivalent amount of *ex post* investment, thus it was never possible, given this assumption, to claim that saving could lead to a general glut or overproduction, for the investment which it created formed part of the aggregate demand and hence kept total spending constant. So that James Mill was able to state that "the whole produce of the country will always be very completely consumed, whether his (i.e. Spence's) landlords choose to spend or to accumulate".[2]

This approach is comparable to Adam Smith's "what is annually saved is as regularly consumed as what is annually spent",[3] and as we shall see in a moment, sets the pattern for the defence utilised by Ricardo and John Stuart Mill.

In the years following 1815 discussions of the effects of government spending became slightly more numerous although in total they still remained sparse; the simple facts of the post-war economy—depression and deflation—contrasted painfully with wartime prosperity and inflation, and inevitably suggested a correlation between high government spending and a buoyant economy.

The first writer to be considered in this period is Malthus; it would be natural to assume that because of his great apprehensions concerning the stability of the economic mechanism, he would tend to be a strong advocate of government spending; why this was *not* the case needs some explaining. It is in the famous Book 2 of the *Principles of Political Economy*[4] that Malthus's analysis of effective demand occurs. A position of less than full employment appears to him as the norm: "the actual wealth of all states with which we are acquainted", he writes, "is very far short of their powers of production . . .";[5] the

---

intervention; should the Continental System cause a fall in manufacturers' incomes, this would be offset, Torrens argued, by the increase of farm incomes via the rise in the price of wheat. But there was liable to be a lag before spending was restored therefore "should the farmers before the new demand for labour has time to restore the value of produce, begin to be embarrassed for their rent, the government, instructed as to the course and nature of the disease, may proceed, with confidence, to apply the remedy". *Ibid.*, p. 62.

[1] For a good description of these ambiguities see Schumpeter, *The History of Economic Analysis*, pp. 615–25. There are vague hints of the impossibility of overproduction in James Mill's earlier work, *An Essay on the Impolicy of a Bounty on the Exportation of Grain*, 1804.

[2] James Mill, *op. cit.*, p. 71.

[3] *The Wealth of Nations* (Cannan edition), Vol. I. p. 320.

[4] Book 2, in fact, consists of only one chapter, which is headed "On the Progress of Wealth". We have used the reprint (1936) of the second edition of the *Principles* (1836).

[5] Malthus, *op. cit.*, p. 313.

primary reason for this condition he ascribes to "excessive" capital accumulation. This is not the same thing as "oversaving" in the Keynesian sense for Malthus assumed the rough equality of saving and investment; "the increase of power and will to save", he remarks, "must almost always be accompanied by a proportionate increase of capital".[1] His fears then of overinvestment were a reiteration of Lauderdale's position, although in a somewhat more temperate version, as the following quotation bears witness:

"It is not . . . meant to be stated that parsimony, or even a temporary diminution of consumption is not often in the highest degree useful, and sometimes absolutely necessary to the progress of wealth . . . All that is contended for is, that no nation can *possibly* grow rich by an accumulation of capital, arising from such a permanent diminution of consumption; because such accumulation being beyond what is wanted in order to supply the effectual demand for produce, a part of it would very soon lose both its use and its value, and cease to possess the character of wealth."[2]

Since most government expenditure was, as the terminology of the day had it, "unproductive", it obviously meant that the lessening of such demands had to play a large part in Malthus's explanation of the post-war recession; the general point was simple enough:

"Without a large expenditure on the part of the government, and a frequent conversion of capital into revenue, the great powers of production acquired by the capitalists, operating upon the diminished power of purchasing possessed by the owners of fixed incomes, could not fail to occasion a still greater glut of commodities than is felt at present . . ."[3]

To put this in another way: the average propensity to consume of the government was higher than that of the income group from which government revenues were raised, hence a transfer backwards in the form of tax reduction meant a decline in the community's average propensity to consume. As Malthus commented:

"If some of the principal governments concerned spent the taxes which they raised in a manner to create a greater and more certain demand for labour and commodities, particularly the former, than the present owners of them, and if this difference of expenditure be of a nature to last for some time, we cannot be surprised at the duration of the effects arising from the transition from war to peace."[4]

On the face of it, there would seem to be here a clear-cut case for government spending. Ricardo noted, for example, that if the assertions made by Malthus concerning the structure of effective demand were true:

"We cannot do better than follow the advice of Mr. Malthus, and oblige the Government to supply the deficiency of the people."[5]

[1] *Ibid.*, p. 329. [2] *Ibid.*, p. 326. [3] *Ibid.*, p. 431.
[4] *Ibid.*, p. 421.
[5] *Works of David Ricardo* (ed. P. Sraffa), Vol. II—*Notes on Malthus*, p. 307.

But Malthus was no such advocate. His rejection of government spending as a solution arises on three counts. In the first place there was the general feeling that government spending meant a profligate system of sinecures with widespread bribery and corruption.[1] Secondly there was the intrusion into the basic argument of his population theories, and although it is true that Malthus had long since abandoned his belief in a minimum physiological standard as the determinant of population increase, it was none the less the case that he tended to assume that " public work " schemes would add to the population rather than improve living standards. In his evidence before the *Select Committee on Emigration from The United Kingdom*, 1827, this point is clearly made.[2] In reply to a question about the effects of employing labour on public works schemes, he answers: " I think it relieves them for a short time, but leaves them afterwards in a condition worse than before ".[3] And indeed he seems partially to accept the " Treasury View ", for when asked: " Would not the money expended in employing it, be merely a transfer from one occupation and employment to another ? ", he replies: " It would chiefly, but perhaps not wholly ".[4]

The third line of reasoning is, of course, connected with Malthus's general position concerning the possibility of a deficiency of aggregate demand. Malthus tended to argue that no new investment would be profitable unless preceded by extra consumption: the spending from the new project would only be sufficient to cover wage costs, there would thus be no margin over for profits. Clearly this involves a denial of any multiplier effects, but given its acceptance it shows an additional reason for his objection to public works. It is this sort of reasoning which would seem to underly Malthus's letter to Ricardo on the subject. As Mr. Sraffa points out in his comments on the letter, both Malthus and Ricardo arrived at the same conclusion regarding public works but for diametrically opposed reasons.[5]

For our commentary on Malthus we have chosen the most obvious source, namely, Ricardo's *Notes on Malthus*.[6] It is not our purpose to forage over the whole of this territory, for it would take us a long way beyond the scope of this paper. Ricardo's comments are concerned with the whole of the *Principles*, and even the part which concerns us more specifically is focussed on the general case and not the particular example. One or two points may, however, be noticed.

---

[1] It is important to note that it was this aspect of government expenditure that the Radicals were most concerned with; Hume, for example, argued the " necessity of Economy and Retrenchment in every department of the Public Expenditure " (*Parliamentary Debates*, Vol. V, N.S., p. 1346). It is thus doubtful whether, even with greater theoretical support, the case for government spending could have been forced through.

[2] *Evidence of T. R. Malthus before the Select Committee on Emigration from the United Kingdom*, 1827. *Parliamentary Papers*, 1827. Vol. V.

[3] *Ibid*., Q. 3281. [4] *Ibid*., Q. 3347.

[5] P. Sraffa, " Malthus on Public Works ", *Economic Journal*, Vol. LXV (1955).

[6] Ricardo, *op. cit*., Vol. II.

In the first place, as we have already observed, Ricardo was perfectly willing to grant the need for government spending given that Malthus's assumptions were correct. But what were these assumptions which seemed to provide such an inextricable gulf between the two writers ? Ricardo thought that the difference could be explained in these terms:

" If the people entitled to consume will not consume the commodities produced, themselves, nor cause them to be consumed by others, with a view to reproduction : if, of the two things necessary to demand, the will and the power to purchase the will be wanting, and consequently a general stagnation of trade has ensued . . . then undoubtedly the cure which he hesitatingly recommends is a very proper one."[1]

But Ricardo denied that saving could ever involve a deficiency of demand. To prove this he utilised the " saving is spending " theorem:

" By accumulation of capital is meant an increase of consumption by productive labourers instead of by unproductive labourers. Consumption is as certain in one case as in the other, the difference is only in the quantity of productions returned."[2] Or again:

" Mr. Malthus never appears to remember that to save is to spend, as surely, as what he exclusively calls spending."[3]

There was thus no need within the Ricardian model to worry about the volume of unproductive consumption. An increase in their numbers could only mean a reduction in the future level of real income, or, as Ricardo put the matter:

" A body of unproductive labourers are just as necessary and as useful with a view to future production, as a fire, which should consume in the manufacturers warehouse the goods which those unproductive labourers would otherwise consume."[4]

William Blake's *Observations on the Effects Produced by the Expenditure of Governments during the Restriction of Cash Payments*, 1823, was the only work devoted solely to the topic under discussion in the period before 1850. The book, by an author known previously as a firm Bullionist,[5] was greeted with dismay by the orthodox school. Ricardo, to whom McCulloch among others, turned for a correct appraisal of it, began his review of Blake in the following manner:

" Mr. Blake is a gentleman whose reputation must be well known to our readers, he was the author of one of the few good pamphlets which were published on the bullion question in the year (1810). . . . We opened his present publication with considerable interest, but although we saw the same marks of ability in the clearness of his statements we must confess we finished the perusal of his tract with regret and disappointment."[6]

---

[1] *Ibid.*, p. 307.
[2] *Ibid.*, p. 327.
[3] *Ibid.*, p. 449.
[4] *Ibid.*, p. 421.
[5] His most important work in this field was the *Observations on the Principles which regulate the Course of Exchange and on the Present Depreciated State of the Currency*, 1810.
[6] Ricardo, *op. cit.*, Vol. IV, p. 353.

Blake argued that the heavy government spending of the war years was sufficient, on its own, to account for the movements in the three key variables around which the discussion of the day centred; namely, the high price of gold bullion, the adverse exchange rates, and the internal price rise.[1] His theoretical structure visualised a division of the economy into two main groups, (a) those who " consume and reproduce ", i.e., those who take part in investment activity, and (b) those who only consume. Now *ceteris paribus*, the greater the expenditure of group (b), the greater would be producer profits and incomes. In wartime, government expenditure had been a large item in (b), and if it were assumed that most of the funds came from incomes that would have normally been saved, then, as Blake put it, " there would be little difficulty in accounting for the increase of prices during the war ".[2]

This was, of course, the exact antithesis of the orthodox position; more usually, as Blake pointed out:

" Political Economists have considered the expenditure of government to be derived from a fund that would have been equally a source of demand if it had been left in the hands of the public."[3]

But Blake saw that the correct solution depended on the assumptions made about the level of employment. Suppose the government suddenly increased its expenditure, then if " previously to this demand the productive powers of the country were exerted to the utmost, and there was no means of adding to the gross annual produce, then the Government could only be supplied with the commodities it required, at the expense of that fund which had before supplied the capitalists ".[4] However, the assumption of full employment was questionable; this Blake attempted to prove by a *reductio ad absurdum*; the use of funds for government consumption purposes was a transfer of " capital in to revenue "—i.e. a process of net disinvestment. If this process had really continued throughout the war years, then the effect on real incomes would have been that of a disastrous fall, but instead these years had " witnessed the greatest activity in every department of industry, every symptom of increasing capital, increasing wages, and increasing population affording the strongest evidence of prosperity and wealth ".[5] Consequently Blake concluded that: " It appears to me that the error lies in supposing, first, that the whole capital of the country is fully occupied; and secondly, that there is immediate employment for successive accumulations of capital as it accrues from saving" .[6]

The two reviews of Blake we shall consider are those by Ricardo and J. S. Mill. Ricardo's comments, which are to be found in his *Notes on Blake's Observations*, and in the *Unfinished Review*, have only been accessible since their publication in the *Collected Works*.[7] Mill's review appeared anonymously in the *Westminster Review* for 1824.

---

[1] These phenomena had, of course, all but disappeared by 1815.

[2] Blake, *op. cit.*, p. 44.

[3] *Ibid.*, p. 44.

[4] *Ibid.*, p. 49.

[5] *Ibid.*, p. 54.

[6] *Ibid.*, p. 54.

[7] Ricardo, *op. cit.*, Vol. IV. See especially the editor's remarks, pp. 325–6.

Much of Ricardo's criticism is taken up with the alleged effects of government spending on the rate of exchange and the market price of gold; as far as the internal effects are concerned his main purpose was to show that government spending could not be regarded as an addition to demand. Basically this involves the assumption of full employment, as the following quotation illustrates:

" But can Mr. Blake's proposition, that with the same capital by means of increased exertion and industry, the increased quantity of commodities, required by Government, can be produced, without occasioning any diminished supply of commodities in any other quarter? If industry be encouraged in one department it is discouraged in another. Wages are always advanced to the workmen before the commodity is produced—the means of employing workmen are not increased at any rate in the first instance. If more warlike stores be produced more capital must be employed in that line whether the same labourers do more work or new labourers are employed, for the very wages which pay them for their work constitute a part of the capital of the master. How is his capital to be augmented but at the expense of some other persons?—how can the same identical commodities be paid to two persons at the same time for wages? "[1]

But what of Blake's argument that with full employment the transfer of capital into revenue would have involved a sharp fall in real wages? In reply to the *reductio ad absurdum* argument Ricardo writes:

" Who has ever supposed this? The author raises a phantom of the imagination and then demolishes it. There can be no doubt that a nation may make great inroads on its capital. In point of fact it never does, because public extravagance is made up by private frugality and savings."[2]

On the question of idle resources, Ricardo argues that this must be the result of partial overproduction, so that, " how will the government expenditure procure a market for them? How should they do it if the proprietors cannot?"[3]

Mill's analysis, as one would expect, follows similar reasoning; written by a precocious teenager it is naturally somewhat brusque and doctrinaire. There is also a tendency to dismiss the allegations of economic distress as merely the "cant of the agriculturalists"; this was in keeping with the tone of the *Review*—essentially an organ for the New Liberalism. He begins with a most succinct summary of Blake's thesis which leaves us in no doubt as to his understanding of it:

" The sum which was expended in the purchase of labour raised wages: and the increased funds thus placed at the command of the labourer, constituted in his hands an additional source of demand, which still further raised the prices of commodities. A strong stimulus was thus given to production, and a great extension to consumption. On the peace this stimulus ceased; the extra demand generated by the war expenditure no longer had any existence; prices fell; producers were ruined; and the consequence was a great diminution of production."[1]

---

[1] *Ibid.*, Vol. IV, p. 356. This is from the *Unfinished Review.*

[2] *Ibid.*, Vol. IV, p. 339.

[3] *Ibid.*, Vol. IV, p. 340.

But Mill saw this as an argument compounded of two fallacious propositions: "first, that of supposing that expenditure, as contradistinguished from saving, can by any possibility constitute an additional source of demand : and secondly, that of conceiving that capital which being borrowed by government becomes a source of demand in its hands, would not have been equally a source of demand in the hands of those from whom it is taken".[2]

Mill's attack on Blake thus really consists of the same point made by his father against Spence, and, as we have already mentioned, this is in its turn but a reiteration of the *Wealth of Nations.* This is the "saving is spending" approach, which in J. S. Mill's words may be stated as follows:

"A mass of capital which is lent to government, and an equal mass which remains in the hands of the capitalist, are both consumed, and both, possibly, within the same space of time. The difference is, that the first, when consumed, leaves nothing behind it, the other, leaves in its place another capital not only equal but greater: for, having been productively consumed, it has been re-produced with a profit. Both, while the consumption is going on, are equally sources of demand: but no sooner is the one consumed, than the demand which it afforded ceases to exist: the other continues to afford a demand, which instead of diminishing, continually increases, as often as the capital is reproduced with a profit."[3]

Blake's theory of the mopping up of idle resources is labelled "the fallacy of the universal glut",[4] and here J. S. Mill backs the counter-arguments already used, by bringing forward the identity of sales and purchases when viewed retrospectively—i.e. in an *ex post* sense. "The demand of a country is made up of the demand of every individual in the country. The supply of a country is the aggregate of the supply of every individual. If, therefore, it can be proved, that every person's demand exactly equals his supply, it will be established that the demand of the whole country, and its supply, exactly balance one another."[5]

The proof, which Mill considers "possesses all the certainty of a mathematical demonstration", is as follows:

"When an individual comes to market, he brings with him a supply consisting of all the commodities which he has to dispose of. But he also brings with him a demand, of exactly the same amount. His only reason for wishing to sell is, that he may be enabled to buy. The means which he possesses of buying are measured by the quantity of commodities which he brings to sell.

"The same reasoning may be applied to a nation. The supply of a nation consists of its commodities. . . . A nation, therefore, has always a power of purchasing, equal in amount to the whole of the commodities which it has to sell."[1]

---

[1] *Westminster Review,* Vol. II (1824), p. 38. [2] *Ibid.,* pp. 38-39. [3] *Ibid.,* p. 39.
[4] *Ibid.,* p. 40. [5] *Ibid.,* p. 42.

We have no wish in this paper to enter the controversy concerning the "real" meaning of Say's Law, but it may be noted that J. S. Mill's main defence is the assumption that savings are automatically invested. He does use the identity of aggregate supply and demand—one of the many definitions of Say's Law and often referred to as Walras' Law—but it is not the main premise.[2]

It is tempting to argue that in order to advance towards a correct appraisal of the economic effects of public spending, the basic step required is the use of an income or expenditure approach in the determination of output and prices. Therefore, it will not be perhaps without interest if we examine briefly the work of two writers who seem to have explicitly adopted the expenditure approach.

The two writers we shall consider are Thomas Tooke[3]—who is normally thought to have given the first clear statement of the theory—and John Barton.[4]

Tooke, however unorthodox in other respects, dealt with the subversive ideas of Blake and company in the strict classical manner:

"The fallacy of this doctrine," he assures us, is due to "the supposition that the money expended by the Government consists of funds distinct from and over and above any that before existed ; whereas . . . whether defrayed by immediate taxes to the whole amount, or by loan . . . it is nothing but a change in the mode of laying out the same sum of money".[5]

Such a precise statement obviously involved a number of rigid assumptions; these Tooke supplied. Firstly it was necessary for the quantity of money to be assumed constant,[1] and secondly that "*the habit of hoarding to any large extent is out of the question*".[2] Hoarding, whether by governments or individuals, would lead to a decline in economic activity, but such an assumption, Tooke decided, "was quite foreign to the practice of the times which are under consideration".[3]

---

[1] *Ibid.*, p. 42.

[2] The identity approach was first stated in England by James Mill in his *Commerce Defended*, but once again it should be noted that this was not his main defence. On the whole subject of Say's Law and its interpretation there is now a vast and rapidly growing literature; the reader is referred in particular to Schumpeter's work already mentioned, and to: D. Patinkin, *Money, Interest and Prices*; W. J. Baumol and G. Becker, "Classical Monetary Theory", *Economica*, 1952. It seems to the present writer that much of the confusion which surrounds this topic is based on a failure to distinguish two distinct points at issue: what J. B. Say in fact wrote and thought on the subject; and secondly, what part if any these ideas played in the structure of classical macro-economics. On the first point there is no one correct interpretation: Say was not a consistent writer and one is simply forced to take one's pick. The essential feature of classical macro-economics is surely less ambiguous, it is the underlying assumption of an "advances" theory of capital (which focuses attention on the act of saving) plus the assumption that savings are automatically invested.

[3] See T. E. Gregory's brilliant introduction to the 1928 reprint of Tooke's *History of Prices*.

[4] We are not suggesting that Tooke and Barton were the only writers to adopt this tool of analysis—there are numerous other examples of which John Rooke is perhaps the most important. We have chosen these two because of the widely differing diagnoses they managed to achieve.

[5] Thomas Tooke, *A History of Prices and of the State of the Circulation from 1793 to 1837* (1838), Vol. I, p. 92. Tooke had afforded the same sort of conclusion in his earlier book, *Thoughts and Details on the High and Low Prices of the last Thirty Years* (1823). J. S. Mill's *Westminster Review* article on Blake seems to have been primarily a regurgitation of this work.

Nor would he admit of any fundamental differences in the analysis if the source of government funds were loans rather than taxation. Tax-financed expenditure was simply neutral in its effect whereas savings borrowed from the public would have been spent in any case, although it would tend to alter the long-run position. Loan-financed expenditure being utilised for consumption purposes involved a reduction in saving (investment) and thus a decrease of aggregate supply relative to aggregate demand. This lessening of supply constituted Tooke's main explanation of the Napoleonic war period inflation.

John Barton is mostly remembered for his pamphlet, *Observations on the Circumstances which Influence the Conditions of the Labouring Classes of Society*, 1817. This is the book which caused Ricardo to change his mind on the question of machinery and unemployment. However, a much more important statement of his ideas is to be found in his manuscript notebook,[4] and it is from this latter source that we have primarily drawn.

His emphasis on the expenditure aspect of macro-economics may be judged by the following two quotations:

"Dr. A. Smith and others have erred I think in representing trade as limited by the deficiency of capital—It is, I apprehend, in fact limited by the demand, or rather the want of demand for the goods . . ."[5]

"I apprehend that high prices, and an increase of circulating medium, are concomitant results of an increased expenditure."[6]

For equilibrium in the economic system there was required "a certain equipoise . . . between capital and expenditure".[7] And Barton thought that there were stabilising factors to assure the restoration of the equilibrium position after any particular disturbance. In periods of "excess capital", which were characterised by "a fall in the rate of interest, a reduction of the customary profits of trade, and perhaps a reduction in the prices of commodities",[8] the equilibriating factors were a rise in real wages—which involved a switch from saving to consumption, and an expansion of foreign trade.

Taking the other extreme—a period of "excess expenditure"—Barton characterised the situation as follows:

"If the party of the spendthrifts should gain a majority in the nation, capital must continually become more valuable: The demand for all commodities and their prices would advance, the increase of demand for labour would act as a powerful stimulus to population. But the recompense of the labour would fall in consequence of the dearness of living."[1] In this case the equilibriating factors were the fall in real wages and the swelling of profit margins, both tending to increase saving at the expense of consumption.

---

[1] Tooke, *op. cit.*, p. 93. [2] *Ibid.*, p. 92—our italics. [3] *Ibid.*, p. 92.

[4] The notebook is to be found in the British Library of Economics and Political Science.

[5] Barton, notebook [*c.* 1850], p. 95. [6] *Ibid.*, p. 97. [7] *Ibid.*, p. 111.

[8] *Ibid.*, p. 111.

From this analysis Barton is able to diagnose the post-1815 recession thus:

"The National expenditure being diminished. The national capital required to be proportionally diminished—There was no longer profitable employment for so large an amount of capital."[2]

The analysis of the effects of government spending seemed to fit easily into this framework. "A profound expenditure on the part of government", he argued, "would be precisely similar in its effects to individual profusion".[3] This meant that at times when the capital-expenditure ratio was too high, "the cutting of canals, the making of roads, the enclosing, draining and marling of land . . . operate precisely like an increase of expenditure".[4]

To tie up this historical survey it seems possible to point to four main types of reasoning to account for the economic conditions of the war period. They are:

(*a*) Explanations involving the assumption of unused resources, although not necessarily of the unemployment of labour.

(*b*) The transfer of capital into revenue acting as an offset to the (inevitable!) declining rate of profit.

(*c*) Forced saving: the process whereby the volume of accumulation and hence investment, was greater than it would otherwise have been, owing to a decline in aggregate real consumption. This mechanism involves lags between product prices and factor incomes somewhere in the system.

(*d*) The "transfer" theory of government demand. This is clearly the prototype of what the twentieth century has termed the "Treasury View". Government spending is merely a substitute for what would otherwise have been undertaken by the private sector.

---

[1] *Ibid.*, p. 81. [2] *Ibid.*, p. 97. [3] *Ibid.*, p. 81.

[4] *Ibid.*, p. 111, see also note on page 110; those familiar with the *Observations* will perhaps detect a certain inconsistency between the presentation given there and the picture we have drawn above. That this is the case cannot be denied, and it is doubtful whether it can be explained by the fact that the notebook entries extend over a period of some years, for the quotations we have used all come from the period 1816–17. The reasons for this are complex and cannot be gone into here, but it may be noted that by the end of his life Barton had swung round to accepting a "capital shortage" theory of crises rather along the lines of Fullarton; in a letter to *The Standard*, dated 7 February, and printed in it on 10 February, 1846 (see cutting pasted on first used page of the notebook), he wrote: "Over-speculation—The attempt to carry into effect the scheme too mighty, or too many, for the means of the community. The conversion of circulating into fixed capital which, when confined within due limits, is most beneficial and salutary, becomes fatal when it is carried beyond a certain point. If the sum so invested within the year exceed the collective savings of the community—in other words, if it exceed the total surplus of national income over national expenditure—the inevitable consequence is a financial crisis."

The orthodox classical position—which may roughly be equated to explanations (*c*) and (*d*)—was that, *ceteris paribus*, government spending meant a reduction in the community's real income. Public expenditure for investment purposes only involved a " transfer ", but if used for consumption outlays led to a reduction in the " wages fund " or general stock available for investment. There was a slight tendency for this to be offset by " forced saving ", but primarily the level of economic activity during the war was upheld by the increased frugality of the private sector.

The unorthodox position—approximating to explanations (*a*) and (*b*)—was that government demand meant, *ceteris paribus*, that the level of economic activity was higher than it would otherwise have been. There were two main reasons for this—the bringing into use of previously unemployed resources, and the transfer of " capital into revenue ".

Now without going into the realism, or otherwise, of the assumptions underlying the two types of explanation, two general points which have bearing on the broader debate may be noticed. Firstly, even those writers such as Blake who did mention the existence of unused resources[1] gave no adequate theoretical account of the phenomenon. There is no investigation of how changes in the demand for or supply of money might cause a decline in aggregate purchasing power. Secondly, the main attack on classical macro-economics came in an attempt to question the " natural " harmony of the savings-income ratio. This assumed that savings were automatically invested and went on from there; hence it excluded the main " Keynesian " problem.[2]

The Durham Colleges, The University of Durham.

---

[1] It is remarkable how little discussion there was in terms of the unemployment of labour. The notable exception to this stricture was, of course, Thomas Attwood, but his theoretical analysis does not warrant him being classified with the unorthodox.

[2] It is not to be denied that this ratio is of fundamental importance in the analysis of secular problems; what we are concerned with, however, is the conditions for less than full employment equilibrium.

A Note on the Early History of Consumer's Surplus[1]

By R. W. Houghton

It seems to be generally believed that there is little that is important or interesting in the development of the concept of consumer's surplus. The accepted story is that a French engineer, Jules Dupuit, first propounded the idea in 1844, but his work was forgotten so that only by Marshall's independent rediscovery of the concept, which he named, was it saved from oblivion.[2] In this note I attempt to show that this version is highly inaccurate. Dupuit undoubtedly discovered the important concept of a surplus utility or, as he called it, " utilité relative ". Although his work was neglected in England it attracted considerable attention on the continent. The analysis of consumer's surplus provided by the brilliant Austrian theorists, Auspitz and Lieben, which owed nothing to Marshall and which in some respects surpassed his work, but which has nevertheless been virtually ignored, was built directly on the foundations laid by Dupuit. It follows that consumer's surplus is not a concept which can be attributed to Marshall as something rather peculiarly his own. All that belongs *exclusively* to him is the name.

Dupuit's major articles on utility theory are available in the excellent Bernardi reprint of his works[3] and the first, and best known, has been translated into English.[4] It is interesting that Joseph Garnier, doyen of French economists in Dupuit's day, who introduced the article which gives the Bernardi volume its title when it appeared in the *Journal des Economistes* (1853), apparently accepted Dupuit's solutions to the problems he discussed.[5]

Dupuit's work on utility theory appears to have derived from his interest in a contemporary debate concerning the financing of public enterprises.[1] What was required, he realised, was a measure of utility that could be used in judging the worth of public works. He saw that J. B. Say's use of exchange value as a measure of utility was incorrect and pointed out that Say himself had advocated a method for determining whether public works were justified[2] which did not involve his own utility measure—but which was none the less quite wrong. Say's errors he attributed to a disregard of Smith's distinction between value-in-use and value-in-exchange. Dupuit, having a clear conception of the law of diminishing marginal utility, found no difficulty in the paradox of value. He pointed out that price cannot be relied upon to indicate total utility, which must be measured, albeit imperfectly, in terms of money. The total utility of an object may be estimated, he showed, by what a consumer would *take* to go without it, or (and he implied that this is the same thing) how much he would *pay* rather than go without it.[3] The difference between this amount and the total price actually paid, which may be measured by the product of a finely graduated tax, Dupuit called *utilité relative*—it is of course Marshall's consumer's surplus. Dupuit discovered two " laws " of demand: the one (to which we now recognise the Giffen exception), that as price falls the quantity purchased tends to increase; the other, that this increase is larger the lower the price at which the fall occurs. The second law was derived from the pyramidical structure of society: at each successive stage in a series of price reductions the demand of an ever larger class of consumers becomes effective. Dupuit therefore conceived the shape of the demand curve for a commodity to be typically that drawn in the diagram (Fig. 1).[4] He used this diagram to illustrate " utilité relative " and to demonstrate some of his applications of the concept. He provided a complete theory of discrimination, illustrated copiously with examples from railway tariffs and other sources; he analysed appropriate pricing policies for a private and a public monopolist; and he showed, too, how discriminatory charging might make profitable an enterprise which, if it charged a single price for its product, would make losses. Another interesting application involves the Dupuit taxation theorem.[5]

---

[1] I wish to acknowledge my indebtedness to Dr. A. W. Stonier for his help and encouragement. The paper was completed with the aid of a grant from the University of Sheffield Knoop Research Fund.

[2] Even Schumpeter in his *History of Economic Analysis* (Oxford, 1954), does not give much more than this superficial outline although he is full of praise for Dupuit's contributions.

[3] *De L'Utilité et de sa Mesure* (ed. Bernardi, Turin, La Riforma Sociale, 1933). Besides the 1844 article from *Annales des Ponts et Chaussées*, the volume contains, *inter alia*, a reply to Dupuit by his fellow engineer, Bordas, entitled: " De la Mesure de L'Utilité des Travaux Publics " and Dupuit's 1844 article from *Annales*, " De L'Influence des Péages sur L'Utilité des Voies de Communication," in which he defends himself against Bordas and which contains a superb discussion of the theory of discrimination.

[4] " On the Measurement of Utility of Public Works " (De la Mesure de L'Utilité des Travaux Publics), trans. R. H. Barback, *International Economic Papers*, No. 2 (1952), pp. 83-110.

[5] J. G. Garnier, note to Dupuit, " De L'Utilité et de sa Mesure. De L'Utilité Publique," *Journal des Economistes*, 36 (1853), pp. 1-27. The note is quoted by Bernardi, *op. cit.*, p. 24.

---

[1] That his interest in economics was not merely a peripheral one is shown by the fact that about half of his 74 published writings deal with economic matters. Although I hope to deal with Dupuit's work as a whole in another place, I cannot refrain from remarking here on the quality of his writings on economics. He had a beautifully clear style and this, conjoined with a wit that was keen but never bitter, makes him one of the most attractive of writers on the subject. It is wholly to be regretted that, often as his work is cited, it is evidently seldom read.

[2] This was to multiply output, or volume of traffic, by the diminution in costs.

[3] The two measures (in modern parlance, they are the equivalent and compensating variations) are, of course, equal if the marginal utility of money is constant throughout. Dupuit did not make this qualification and in not allowing for income effects was guilty of a failure to separate demand and utility curves. See below, p. 52.

[4] Solely for the convenience of following customary practice, I have reversed Dupuit's axes.

[5] It seems to be widely believed that Dupuit was the earliest advocate of marginal (variable) cost pricing. In fact he did not recommend that, in general, tolls on publicly owned bridges should be abolished but that they should be imposed at the lowest rate which would yield sufficient revenue to cover total costs. Hotelling,

Assuming for the purpose a constant rate of decline in consumption as price rises, Dupuit showed that the loss of utility due to the imposition of a tax on a commodity is proportional to the square of the tax rate. It follows from this that it is better to spread indirect taxes over a large number of commodities than to concentrate outlay taxes on a few particular goods. This is probably the first theoretical justification for a general sales tax.

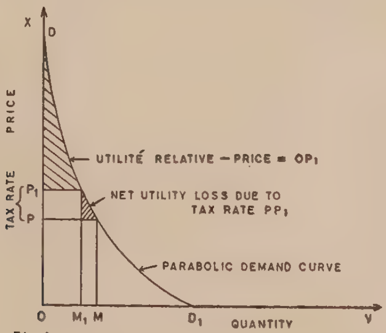

Fig. 1.

The first to take up Dupuit's challenge to orthodox theory was his fellow engineer, Bordas, who valiantly attempted a total defence of J. B. Say's measure of the utility of public works.[1] Dupuit was most severe with this in his 1849 article, enjoying himself particularly at the expense of Bordas' discussion of *nuances* in the meaning of the word utility.[2] However, Bordas also raised some important objections to Dupuit's own measure and in these he anticipated later writers such as Nicholson.[3] Although he was willing to grant that the maximum sacrifice that would be made for a good has some connection with utility as defined in economics, Bordas argued that it is a most unsatisfactory measure of this utility, for it cannot be determined categorically, being dependent on the wealth of the purchaser and the prices of substitutes. He asked, "Quelle théorie peut-on donc édifier sur une base aussi variable . . . ?"[4] He faulted Dupuit for failing to make clear whether or not, in the process of calculation of the utility of a commodity, other commodities were assumed to be subject to a similar graduated tax,

---

who rather implies the opposite, is perhaps mainly responsible for this misapprehension. See H. Hotelling, "The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates," *Econometrica*, 6 (1938), pp. 242-269.

[1] "De La Mesure de L'Utilité des Travaux Publics. Réponse à l'article de M. l'Ingénieur en Chef Dupuit." *Annales des Ponts et Chaussées* (1847), reprinted in Bernardi, *op. cit.*, pp. 67-96.

[2] Dupuit, "Influence des Péages," in Bernardi, *op. cit.*, pp. 67-96.

[3] See, J. S. Nicholson, "The Measurement of Utility by Money," *Economic Journal*, VI (1894), pp. 342-347, and *Principles of Political Economy*, Bk. 1, Ch. III.

[4] Bordas, "De la Mesure," in Bernardi, *op. cit.*, pp. 91–2.

U OF I
LIBRARY

pointing out that quite different results would be obtained in the two cases. Finally he objected to the interpersonal comparisons implicit in Dupuit's method, for, " les quantités à mettre en présence ou à comparer, bien qu'exprimées en monnaie, n'en sont pas moins d'espèce differente ".[1] These comments almost exactly parallel Nicholson's objections, fifty years later, to Marshall's consumer's surplus analysis. Moreover, Edgeworth's[2] rebuttal of Nicholson is to some extent foreshadowed in the arguments deployed by Dupuit[3] in his rejoinder to Bordas. Dupuit admitted that there are difficulties in measuring utility in money terms; he explained that, in calculations using his method, comparison should always be made with *l'état antérieur* (p. 125), and from this the inference is that he assumed other prices to remain constant.[4] That the calculations are difficult is no reason for rejecting the method (he argued) and he referred Bordas to J. B. Say, who, commenting on difficulties of the same kind in the measurement of value, had remarked: " il n'est pas en notre pouvoir de changer la nature des choses. Il faut les étudier telles qu'elles sont[5] (p. 117). The matter of interpersonal comparisons was not taken up in the second article; presumably Dupuit was content to rest on his 1844 position that questions of income distribution are not the concern of political economy.[6]

Dupuit's consumer's surplus analysis came in for heavy criticism from Walras. Although he recognised that Dupuit deserved high praise for his work on discriminatory pricing (from which Walras obviously lifted his own illustrative examples), Walras found him guilty of a " capital error " in confusing demand and utility curves. Since Dupuit's utility measures were involved in this confusion, Walras concluded that the whole of his utility measurement analysis was vitiated and, having repeated almost exactly Bordas' objections to the method, his final judgment was that " Dupuit's theory is no improvement on J. B. Say's ".[7] This was not only an astonishingly bad assessment by a theoretician who is regarded by some as the greatest in economics, but it was framed in highly misleading terms. Dupuit's implied confusion (identification ?) of demand and utility curves was of course a much less serious blunder (abstraction ?) than Walras believed;

---

[1] Bordas, " De La Mesure," in Bernardi, *op. cit.*, p. 95.

[2] F. Y. Edgeworth, " Professor J. S. Nicholson on Consumer's Rent," *Economic Journal*, IV (1894), pp. 151-58.

[3] " Influence des Péages ", in Bernardi, *op. cit.*

[4] Although he qualified this later, *ibid.*, p. 129, when he stated that in the calculation of the utility of a good by his method all similar commodities should be assumed subject to a like tax.

[5] Dupuit gives a reference to Say, *Cours*, Tome 1, p. 72; (Bernardi's note indicates the second edition.)

[6] " De la Mesure," in Bernardi, *op. cit.*, p. 52. Edgeworth, *loc. cit.*, p. 154, answered Nicholson's objections to interpersonal comparisons rather differently; his classic remark was: " Undoubtedly there is a great gulf between one's own and other people's feelings. But it must be leaped over by commonsense and bridged with sympathy."

[7] Léon Walras, *Elements of Pure Economics*, William Jaffé translation (London, 1954), p. 445.

moreover, as we have seen, Dupuit, in his reply to Bordas, if not earlier, showed a clear appreciation of many of the points which Walras accused him of having overlooked.[1] It was most remiss in Walras that, having criticised Dupuit's work on *utilité relative* quite destructively, he did not offer a correct formulation. He either ignored or failed to appreciate the truth, so clearly expressed by W. E. Johnson, that " The general problem of maximising utility is applicable just because there is this surplus ".[2]

The notions of producers' and consumers' benefits from trade (Marshall's producers' and consumers' rents) were first discussed in print, in England, by Fleeming Jenkin,[3] who used a graphical analysis to illustrate how these might be measured. Jenkin believed his measures to be " novel " (p. 110). In this, he was only partially correct, of course, but he was certainly the first to publish a discussion of producers' surplus and a demonstration that the amounts of the two surpluses depend, in each case, on the steepness of the appropriate curve. Jenkin applied his results to the problems of the incidence of a commodity tax, showing how the relative losses of producers and consumers due to the tax may be calculated and making the points that each party's loss is greater than the tax it pays and that these losses are greater the higher is the tax rate. Jenkin, however, paid no attention to the concept of the individual consumer's surplus and contributed nothing to the elucidation of the special assumptions required for a satisfactory analysis of this idea.

The first significant advance on Dupuit's work came from Vienna. Rudolph Auspitz and Richard Lieben published their *Untersuchungen über die Theorie des Preises* in 1889,[4] just one year before Marshall's *Principles* appeared and ten years after his *Pure Theory* had been privately circulated. In a paragraph added to the preface of a French translation of their work (1914),[1] the surviving author, Lieben, explained[2] that they had no knowledge of the *Pure Theory* until some time after the first German edition. Since their consumer's surplus analysis was completed by 1889, it clearly can owe nothing to Marshall, and is simply a development of Dupuit's work. Although the treatment of the concept by the two Austrians is in many ways similar to Marshall's, there are some interesting and significant differences. Where these exist, it is by no means the case that the Austrian analysis suffers from comparison.

---

[1] It is somewhat surprising that Schumpeter, *op. cit.*, p. 1061, who takes Marshall severely to task for niggardliness in his acknowledgement of Dupuit's work, allows Walras, who as a theorist he ranks above all others, to get off unscathed in this matter.

[2] W. E. Johnson, " The Pure Theory of Utility Curves," *Economic Journal*, XXIII (1913), p. 491.

[3] See the essay, " On the Principles which Regulate the Incidence of Taxes " (pp. 107-121), in Fleeming Jenkin, *The Graphic Representation of the Laws of Supply and Demand and other Essays*, London School of Economics Reprint, No. 9, (1931). This essay was first published in the *Proceedings of the Royal Society of Edinburgh*, 1871–2, but Jenkins' earlier paper (1870) on the " Laws of Supply and Demand " in which he uses the same kind of graphical analysis but does not mention the two " benefits ", predates Jevons, *Theory of Political Economy* (1871). Jevons, however, had been using intersecting curves in his lectures since 1863. See J. M. Keynes's review of Jevons, *Theory of Political Economy* (4th edition) in the *Economic Journal*, XXII (1912), p. 80.

[4] Duncker and Humblot (Berlin). That this is an important work is now recognised. Its difficulty probably explains why it has been comparatively neglected. Professor Hutchison does its authors no more than justice when he writes : . . . no work in our period (1870-1929), not even Marshall's or Pareto's, contains a greater number of precise and orginal contributions to the theory of the consumer and the firm, and to the classification of the main assumptions on which this analysis has since been seen to rest ". T. W. Hutchison, *Review of Economic Doctrines 1870-1929* (1953), p. 189.

The Auspitz and Lieben investigations into price theory were more thorough than those of any comparable writer save Walras, with whose general equilibrium analysis their methods were in direct contrast. Philosophically, their approach was a highly sophisticated Jevonsian utilitarianism. They believed that: " les sentiments de l'individu ne sont pas susceptibles de mesure "; and that " encore moins saurait-on comparer les sentiments de deux individus ".[3] Nevertheless, they took the view that it is possible to measure the small changes in feelings (satisfactions, dissatisfactions) which are important for choice. Their position was that although his subjective evaluation of money changes according to an individual's circumstances, such variations may be disregarded so far as small changes in expenditure are concerned.

Auspitz and Lieben were meticulously careful to set out the abstractions necessary to their method and were at pains to emphasise the conditional validity of their results ; in this respect their treatment is undoubtedly more satisfactory than Marshall's. Their three major abstractions from reality, important for consumer's surplus theory, were: that the marginal utility of money does not vary, that tastes remain unchanged, and that other prices remain constant, with respect to variations in the price of a particular commodity.[4] These assumptions were made, not of course because they were believed to be realistic, but purely in the interests of simplicity. Two theorists who were well aware of the intricacies of commodity relatedness and who, it may be noted, made valuable original contributions to analysis in this field,[5] could hardly have agreed lightly on their use.[6] As is well known, Marshall's own assumptions in his consumer's surplus analysis were precisely these of Auspitz and Lieben.[7]

---

[1] *Recherches sur La Théorie du Prix* (Paris, Giard and Brière, 1914). Where changes from the first German edition were made they appear in italics in the translation. In what follows, references are to this work.

[2] *Op. cit.*, pp. XII-XV. [3] *Ibid.*, pp. VIII-IX.

[4] *Ibid.*, p.2, also p. 12 and p. 91.

[5] Professor Hutchison (*op. cit.*), credits them with the first discussion of complementarity and they seem also to be the first to use the criterion of the sign of the second derivative of the utility function.

[6] Indeed, Lieben explained in a note occasioned by the Edgeworth-Nicholson controversy that these assumptions were made only after mature consideration. His justification of the methodology is most convincing. See Richard Lieben, " On Consumer's Rent," *Economic Journal*, IV (1894), pp. 716-719.

[7] One feels in reading Lieben's note (*loc. cit.*), that he must have been greatly disappointed at the failure of both sides in this controversy to pay any attention to

One of the most significant features of the Auspitz and Lieben treatment of consumer's surplus is that they distinguish clearly between the individual and aggregative concepts. The first they measured as a quantity of money and called consumer's profit, the second they treated as an amount of utility which, given their assumptions, could be measured in money terms. In clearly distinguishing between the two ideas and in retaining Dupuit's conception of the individual surplus (*utilité relative*) as a utility difference,[1] the two Austrians again scored over Marshall. The latter defined consumer's surplus in such a way that many interpreters have taken the individual concept to be essentially a money difference,[2] whereas, of course, it is fundamentally a utility difference, which has a unique money measure only when the marginal utility of money is constant. The difference between Marshall and Auspitz and Lieben is that Marshall's definition appears to depend for its meaningfulness on this assumption of constancy, whilst the Auspitz and Lieben definition, like Dupuit's, is perfectly general and only their money measure of the surplus requires the special assumption that the marginal utility of money is constant.

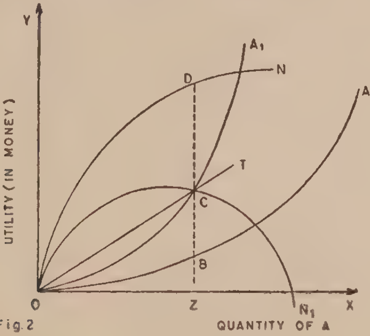

Fig. 2

Auspitz and Lieben assembled an interesting though somewhat cumbersome diagrammatic apparatus to portray *inter alia* first, the aggregate consumers' and producers' surpluses and second, the individual consumer's surplus. Money and utility are both measured

---

the work in which he and Auspitz had provided an analysis of the idea in dispute which was not only much fuller but considerably clearer than Marshall's earlier, if not his later, expositions.

[1] " The calculation of the utility of an (annual) quantity of some commodity A (they write) involves a comparison between the satisfaction derived from the said quantity in the most advantageous combination (of A and other commodities) and the satisfaction which can be obtained without recourse to A ", *op. cit.*, pp. 88-89.

[2] Marshall wrote: " The excess of the price which he would be willing to pay rather than go without the thing, over what he does pay is the economic measure of—surplus satisfaction. It may be called consumer's surplus." *Principles*, 8th ed., p. 124. I have argued elsewhere that this statement ought to be interpreted in the light of Marshall's whole discussion and that interpreted literally it does not define exactly what Marshall meant by consumer's surplus.

along the Y-axis (the marginal utility of money being assumed constant) and quantities of a commodity A are measured along the X-axis (Fig. 2). The curve OA is a total cost curve, vertical distances from the X-axis representing the cost of producing corresponding quantities. OA_1 is a total offer curve: its radius vectors are parallel to tangents to OA and along the Y-axis horizontal distances indicate the amounts which would be supplied at prices represented by the slopes of these vectors. ON is a total utility curve and along the X-axis vertical distances represent the utility of corresponding quantities. ON_1 is a total demand curve: its radius vectors are parallel to tangents to ON, and along the X-axis vertical distances represent total expenditure on X at prices indicated by the slopes of these vectors. The analysis shows (for example) that with an output OZ, sold at price $\frac{CZ}{OZ}$, consumers' surplus is CD and producers' surplus CB.

Walras was as highly critical of this analysis as he was of Dupuit's work on consumer's surplus. He pointed out that the four curves can be reduced to two—the Marshali supply and demand curves—and went on to argue that, like Dupuit, Auspitz and Lieben had confused demand and utility curves.[1] Walras concluded that their measure of consumers' surplus was therefore wrong and he argued that in conditions of free competition producers' surplus does not exist. In both cases his criticisms seem wide of the mark and the two Austrians appear to have the better of the argument.

In their discussion of the utility derived by a single individual from his consumption of a particular commodity, A, Auspitz and Lieben introduced a new construction, the curve of *jouissance*.[2] The point B on OX (Fig. 3) indicates the maximum utility level which an individual can obtain, the commodity A being unavailable, with a given money income and given prices of all commodities. The curve BG traces the utility levels that can be obtained if the various amounts of A indicated by its abscissæ are given to the consumer without charge. It is then supposed that commodity A is not given free but must be purchased. The total utility curve ON which measures the maximum amount which will be paid for various quantities of A can be derived from BG. Its position throughout must clearly be such that it is everywhere below BG by the distance OB, so that at any point on ON the consumer is indifferent between that amount of A together with other commodities, and some larger combination of those other commodities. In other words, any ordinate of ON indicates the total additional utility (in money terms) derived from the availability of A at a price indicated by the slope of the tangent to the curve at that point. The amount that is actually paid (the utility that is sacrificed) for this utility is indicated by that part of the ordinate (LM) which lies below its intersection with the total demand curve ON_1 ; the part of the ordinate which lies above this intersection (LR) measures the consumer's surplus.

---

[1] See L. Walras, *op. cit.*, Appendix II, pp. 483-448. It was even less fair to make this point against Auspitz and Lieben than it had been to level the same charge against Dupuit. Unlike their French predecessor who had neglected changes in the marginal utility of money, the Austrians purposely chose assumptions which secured the identity of demand and utility curves in terms of money.

[2] *Op. cit.*, pp. 89-90.

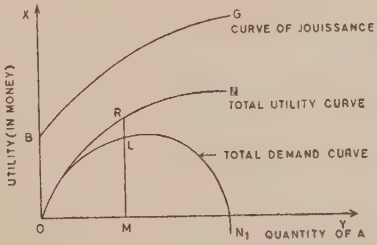

Fig 3

This is a particularly neat demonstration of the surplus which, while it gives a result in terms of money, never permits one to lose sight of the fundamental point that what is being measured is a utility difference. Many of the difficulties and confusions which gave the concept a bad name during much of the twentieth century might perhaps have been avoided if the Austrian treatment had been given a share of the close attention that was lavished on Marshall's work.

University of Sheffield.

Input-output Approach in an Allocation System

By A. Ghosh

I

An input-output transaction matrix may be conceived in terms of an equilibrium position of two sets of interacting forces. The broadest way in which we can define them is to denote one set of forces as technical factors expressed through production functions and the other set as market factors expressed through allocation functions. Though technical factors influence production, it is widely recognised that there are various alternative technical combinations in any economy and under different market situations different combinations are actually taken up. An input-output matrix then represents an equilibrium solution for two sets of equations somewhat analogous to demand and supply functions.

Under a competitive market and non-scarce resources allocation functions will play a minor role in the set up, and special conditions may be formulated under which production coefficients will determine the equilibrium.

But under a monopolistic market with scarce resources allocation functions will determine which among a large group of alternative processes and combinations will be taken up by any particular sector. That is, production functions are forced to play a minor role.

We can in this sense associate with an input-output matrix two sets of coefficients. One of these sets has been familiarised by Leontief as production coefficients, or, technical coefficients. They express the relationship $x_{ij}=\alpha_{ij}X_j$

where x_{ij} is the output of the ith sector sold to the jth sector and X_j is the output of the jth sector.

We can similarly also assume the existence under different circumstances of the relation $x_{ij}=A_{ij}X_i$

where x_{ij} is as before the output of the ith industry going to the jth sector and X_i is the output of the ith sector.

According as supply or demand conditions predominate either of the relations may approximate reality or neither of these simplified situations may actually approximate reality at all.

Leontief has formulated an idealised situation where the set α_{ij} is assumed fixed and the set A_{ij} is allowed to change freely with any change in the final demand. Such conditions may be assumed to hold approximately so long as there is no scarce factor and so long as suppliers are able to offer more of any commodity at the existing price.

Leontief's formulation thus takes up for consideration a situation where there is even in the short period a large unused capacity in most sectors such that any change in the final demands do not set up any disturbance in relative prices and certainly do not bring in any question of limited supply. Ignoring for the moment other criticisms of this simplified approach it may be said that where even in the short period nearly all industries have at their disposal a large surplus of plant and labour the supply curve is bound to be very elastic and the overall situation would be very much dominated by buyers' requirements. This position is easily illustrated by an advanced capitalist economy in depression.

It is possible to build up a similar model with allocation functions in an economy where different sectors are under monopoly control and all except one resource is scarce. We can consider a planned economy under centralised control with scarce material resources and productive capacity with ample supply of available labour. The central authority has for each sector allocation schedules defining national or social welfare and it has been seeking that allocation which maximises welfare subject to possible production combinations. That is, any feasible combination of inputs which gives a higher welfare value may be preferred to one which may be more efficient as a production combination, but is lower on the welfare scale. An illustration may be given of a controversy in the Indian second five-year plan which is centred around the objective of reviving cottage industries which are productively less efficient but which gives employment rather than keeping people on a dole. The objective of the planning authority is not a search for the optimum technical combination of production but for that feasible combination which makes the best use of resource made available for it on the basis of a welfare function.

It is obvious that in cases of this type the production combinations are forced on the industries not by technical considerations but by scarcity and consequent rationing. In any alternative situation where scarcity has eased or quotas have been changed the industries will seek combinations which are completely different. Input ratios here, therefore, are conditioned by the assigned quota and any change of the assigned quota will alter such ratios. If such a situation is postulated, it is evident that the stability of production coefficients cannot by any means be assured for a change in the final demand of the community.

In this paper we shall investigate the use of input-output methods in economies of this type. This means that our discussion is confined to a consideration of economies with a high rate of investments, with inadequacy of the supply of productive plants and materials and with a rationing system in allocation.

The purpose of the present paper is not to search for optimum allocation combination but to accept that the rationing authorities have in fact arrived at some optimum allocation factors on the basis of a national welfare function and an input-output table gives such a set of allocation coefficients defined by the second set of functions. For simplicity we assume further that any allocation has corresponding to it at least one feasible combination of products.

In the present paper it is our contention that the general background provided by these economies makes the supply factors of greater predominance and one may consider the second set of coefficients more stable in these economies than the first set defined by Leontief. The basic difference between such economies from that illustrated earlier is that there is an almost unlimited demand for goods stimulated by development plans which is undiminished by higher prices. The only way such a situation can be handled is by rationing, " that is, if price increases prove ineffectual in reducing the expenditure function sufficiently, suppliers [here Govt.[1]] may decide that nevertheless they will produce only the output they desire and allocate it among consumers on some arbitrary rationing basis (first come first served, fixed percentage of purchases in previous years, etc.). In this case it is the spenders who are forced into involuntary actions, they must buy less than they desire ".[2]

In economies of rationing since every sector registers a high demand for the scarce factors the general tendency of the rationing authorities is not to change the relative shares of each sector in the short run since such relative shares are determined by a delicate balancing of different sectors' claims and counter-claims. This tendency considered from the problem of projection makes the allocation coefficient more stable in the short run than production coefficients.

Though such situations are a commonplace feature in controlled economies only under certain conditions, we may imagine a voluntary allocation system being taken up even by free enterprise in scarcity. This might happen when the producer of the scarce article feels that he should keep his market in his grip rather than sell only to the highest bidder. But of course such a situation over the whole economy in a free enterprise is not quite feasible, and sooner or later authority has to step in and dictate the respective quotas on the basis of national needs rather than leave it as a free for all, as happens during wars. Under such basic change in the background it may be of interest to use the second set of coefficients and develop an allocation model as an extension of the original Leontief system.

With this adaptation the Leontief model and its inverse may be used to provide answers to questions which are very similar, though not identical, to those of the conventional input-output model.

II

Our basic model is very similar to the conventional input-output model, that is, we consider the economy as consisting of sectors defined on general economic considerations. We then replace the Leontief production function by a different postulate.

A sector's receipts from every other sector are given linear functions of its own disbursements.

---

[1] My insertion.

[2] Don Patinkin: "Involuntary Unemployment and the Keynesian Supply Function", *E.J.*, LIX, 1949, p. 375.

Let E_i be the total external outlay of sector i and e_{ij} the outlay of sector i in sector j. Then we have the identities

$$\sum_j e_{ij} = E_i \ (i \neq j)$$

Consider functions of the form

$$e_{ij} = A_{ij} \ E_j$$

This implies that the ith sector's outlay in the jth sector is a function of the total outlay of the jth sector. That is, not production coefficients α_{ij} but supply coefficients A_{ij} are constant. Any increase of sector j will be allocated in a fixed ratio to all the receipts from other sectors. Then we get a system of homogeneous linear equations

$$\sum_j A_{ij} \ E_j = E_i \ (i, j = 1, 2 \ . \ . \ . \ n)$$

This set of equations leads to the closed system considered by Leontief. As for purposes of projection we are concerned only with the open case we modify slightly the above system by considering E_n as autonomous such that we get now a system in n-1 unknowns

$$\sum_j A_{ij} \ E_j = E_i - e_{in} \ (i, j = 1, 2, \ . \ . \ . \ n-1)$$

where e_{in} is the vector of autonomous outlay elements included in every equation. The open case thus reduces to

$$(I - A) \ E = e$$

where A is the matrix of coefficient, I a unit matrix and e a column vector of assigned autonomous cost elements in each sector.

The solution vector is given by

$$E = (I - A)^{-1} e$$

In this readapted system the column vector e is best interpreted as the net national income generated in the sectors. E is the vector of total outlay by the different sectors.

For any given vector of national income to be generated we shall get a unique vector of outlays likely to the sectors. We have thus arrived through this approach not at an estimate of output (value) but at an estimate of likely costs.

The equation system in the open Leontief model is

$$X_i - \sum_j \alpha_{ij} \ X_j = x_{in} \begin{cases} i, j = 1, 2 \ . \ . \ . \ n-1 \\ i \neq j \end{cases}$$

Then we have the solutions

$$X_i = \sum_j \ \alpha^*_{ij} \ x_{jn}$$

where α^*_{ij} are the elements of the inverse of the co-efficient matrix. The income or equivalent employment is obtained by applying the labour input coefficients to the expression for total output in the solution set. Thus employment

$$x_{ni} = \alpha_{ni} X_i = \alpha_{ni} \sum_j \alpha^*_{ij} x_{jn}$$

In exactly similar way, the net output in the present case is obtained as

$$e_{ni}=A_{ni}E_i=A_{ni}\sum_j A^*_{ij}e_{jn}$$

where e_{jn} are the assigned income to be generated and A^*_{ij} are the inverse of the coefficient matrix.

We do not thus consider the production possibilities in the system and the employment or income generation following from a particular bill of final demand but the income generating or employment possibilities of the system and the resultant net output from the system.

The simplest way of interpreting the use of these cost estimates is to assume that normally every sector will have to balance its outlay and its receipts. We then equate the costs to the value of the output that the sector must produce in order to generate a national income assigned to it. This approach may be used in a similar way as input-output approach is used for the location of bottle necks, and for testing consistency of different bill of goods with different employment programme.

Let the open allocation model in the base period be

$$E_i-\sum_j A_{ij}E_j-e_{in}=O \qquad \begin{cases} i,j=1,2,\ldots n\text{–}1 \\ i\neq j \end{cases}$$

Then we may write the solution set as

$$E_i=\sum_j A^*_{ij}e_{jn}$$

Let the planning authorities decide that the income in the planned period in the *i*th sector will be related to the income in the *i*th sector in the base period by the ratio

$$\frac{e^*_{in}}{e_{in}}=\lambda_i$$

where e^*_{in} refers to the planned period and e_{in} to the base period. Then the costs in the planned period

$$\begin{aligned} E^*_i &= \sum_j A^*_{ij}e^*_{jn} \\ &= \sum_j \lambda_j A^*_{ij}e_{jn} \end{aligned}$$

Let the outputs of sector i be denoted by Q_i and Q^*_i in the two periods such that $Q^*_i=K_iQ_i$ and let P_i and P^*_i be the respective prices under equilibrium.

Then $$E_i=P_iQ_i,\ E^*_i=P^*_iQ^*_i=P^*_iK_iQ_i$$

$$\frac{P_i}{P^*_i}=\frac{K_iE_i}{E^*_i}=\frac{\sum_j K_iA^*_{ij}e_{jn}}{\sum_j \lambda_jA^*_{ij}e_{jn}}$$

The planning authority has the values of λ_j as data in the form of income ratios between the two periods in different sectors. We may assume that it has certain tentative estimates of the quantity ratios K_i of the two periods. Then the new price ratio P_i/P^*_i is determinate. That is, assuming that the allocation and the suggested income generating plans will lead to specific changes in output the equilibrium price of the planned period is obtained as a solution. Alternatively, assuming certain price ratios between the current and previous period we can estimate what the equilibrium quantities in different sectors should be. We can thus use this model for the purpose of measuring inflationary effect on prices which may have to be faced due to a particular income generating policy.

Assuming that ratio of prices (quantities) in the planning period should remain as in the base period we get the quantities (prices) that must be obtained in order that the required employment programme is maintained and no sector runs at a loss. Obviously, any sector that reveals here a quantity bottle-neck will be forced to raise prices in order to run without a loss. Quantity bottle-necks thus in this system do not lead to a collapse of the whole system (which would take place with rigid production coefficients) but rather to price changes. Employment, final demand and prices are thus all brought into the picture provided the main background assumptions are assumed in the short run.

The change in the price indices will indicate the extent to which certain sectors are being asked to generate more income without relevant increase in the product. Thus supposing any particular sector is asked to have a higher profit or a higher employment but fails to increase its output in a corresponding way its receipts will exceed costs. Since it has been advised to cover costs it will be forced to raise prices. The relative prices will thus show the extent to which the income generation programme is working in harmony with real output.

III

Goodwin[1] and others have shown that the Keynesian system may be treated as an aggregation of an input-output model. The aggregation in this case cancels all inter-firm transactions leaving only national income. Assuming that aggregated national consumption is related to national income in a non-homogeneous linear form we get the familiar Keynesian equation

$$(I-a)\,Y=I$$

relating income to investment.

Aggregating on similar lines the present model is also reduced to the traditional Keynesian form. It only interprets the " psychological propensity to consume " of a freely spending community as the " allocation decision " of a non-economic authority. Suppose in a community under overall rationing " a " is the marginal propensity to consume as desired by the community and " α " is the marginal rate of consumption spending as determined by the authority. Then for a specific increment of investment $\triangle I$ the desired increment of income of the community will be $\frac{1}{1-a}\triangle I$, while the actual rise of income of the community as permitted by the authority will be $\frac{1}{1-\alpha}\triangle I$. If " a " is greater than " α " this will mean a larger desired income compared to the permitted income. $a\triangle y-\alpha.\triangle y$ may be considered as the involuntary saving of the community. The allocation coefficient thus is a realistic concept relevant to income generation under an overall rationing system.

---

[1] R. M. Goodwin: "The Multiplier as Matrix". *E.J.*, LIX, 1949, pp. 537–555.

In an economy where demand is outstripping supply and some form of rationing and price control is operating the purchasers are forced to an involuntary saving as far as spending money on a group of commodities is concerned. We define involuntary saving as the saving due to a situation where more demand is forthcoming in the market at a price higher than the present ruling price. Where such involuntary saving exists the basic assumption of a freely moving consumption curve is absent and therefore one can have no idea of the shape of such curve from a study of the earnings, savings and consumption of the community. The consumption to output relation of the community in this case is represented by $\frac{\triangle o_c}{\triangle o_c+\triangle o_i}$ (where o_c and o_i are outputs of consumer goods and investment goods) which equals $\frac{\triangle c}{\triangle y}$ where $\triangle c$ is the actual increment of consumption and $\triangle y$ is the increment of income of the community but is not equal to $\frac{\triangle c'}{\triangle y}$ where $\triangle c'$ is the desired increment of consumption corresponding to that increased income. So long as $\triangle c=\triangle c'$ the stability of $\frac{\triangle c}{\triangle y}$ may be assumed as a community behaviour but otherwise these considerations will not make $\frac{\triangle c}{\triangle y}$ stable. The division of income into spending and saving is thus determined not by the income earner but by the producer or the factors controlling the producer's decision.[1] Unlike the consumption function there is no simple way of determining the shape of the function relating desired production of consumer goods to total output. In most economies of scarcity with large-scale controls the fundamental allocation between consumption and production is determined by a body of socio-economic forces. In the short period we can only accept the constants relating the two as institutional as a given datum and work with it—but to deny its existence in such situations and ignore the constraints to economic behaviour can only lead us to wrong forecasts. The reaction mechanism itself thus ceases to be based on consumer's behaviour and becomes institutional.

Department of Applied Economics,
University of Cambridge.

---

[1] G. C. Mandal: "An Aspect of Inflation in India, 1939–47". *Bulletin of the International Statistical Institute.* Vol. XXXII: Part III.

Book Reviews

On the History and Method of Economics: Selected Essays. By FRANK HYNEMAN KNIGHT. Edited by W. L. LETWIN and A. J. MORIN. University of Chicago Press. Cambridge University Press. 1956. vii + 309 pp.

Radical independence in thinking is rarer than great erudition and not wholly compatible with it. How can a man have time to read, when all his power of mind is bent upon the inner vision ? Yet there are some who seem to have swept an eye over the whole vast mosaic of humane knowledge and speculation and picked out faults of design and workmanship, or of misjudged endeavour, and shown how fundamental improvements can be made. Such a one is Professor Frank Knight to whom this book, compiled from his own writings, was offered by its editors as a sort of unusual *Festgabe* for his seventieth birthday.

A passionate sincerity served by a mocking wit, a few hatreds, a scorn of the soft word and a fearlessness of the wrath, a merciless assumption that the reader is an educated man, an elusive mixture of scepticism and mysticism, a restless, endlessly dissatisfied mind searching for something beyond systems and beyond science: all this is here, and if the reader has a strong head he will find this a heady wine, if not he will be laid out.

Some of the chiefest anger in this book is against those who would abolish the humanity of man; who would make him, that is to say, an object for science, predictable in his perfectly mechanical reactions to external situations. But Professor Knight is scornful also of those who think that ultimate ends can be taken as given. A man's whole life, and the life of society as a whole, he says, is very largely a debate about ends. Accident, caprice, error and " freedom " make prediction impossible. He does not go on to ask, finally, what we must mean by freedom. If, at this ultimate philosophical barrier, the mystic could have overcome the sceptic, there might perhaps have been, at least, a resting-place for the mind. But though he charges the author of another book with equivocation on the rôle and meaning of freedom, he does not make his own position clear beyond cavil.

To read this book is like being conducted through a superb museum or picture gallery in the middle of the night, by a guide equipped only with a powerful torch. He switches the beam this way and that, giving us fascinating flashes of insight but no thorough grasp of a connected unifying theme. The result is tantalising beyond expression. Where is the full statement of that vision of the meaning and nature of society which is implicit in all his work ?

Professor Knight's great reservoir of knowledge and ideas is here sounded in many different regions. A fifty-page essay dealing with " The Ricardian Theory of Production and Distribution " will open many readers' eyes on the limitations of the synthesis which the classical economists achieved. Here is to be met also the puzzling view, shared by Knight, I believe, with Irving Fisher, that net investment is not production. Only that is produced, it seems, which is also simultaneously consumed. This flows from the definition that it is only *services* which can be either produced or consumed, with the added implicit notion that services cannot be stored. Is it not simpler to say that to produce is to create value and to consume is to destroy it ? Wherever there is a market to determine the value, this scheme of thought seems to give us an unequivocal answer within the framework of stable expectations.

The targets of Professor Knight's antagonism are a strangely assorted group. They include economists as various as the Marxist Werner Sombart, those social philosophers whom Professor Knight labels ' positivists ' (against whom he allies himself with Professor Hayek), and, above all, Keynes:

> " The latest ' new economics ', and in my opinion rather the worst for fallacious doctrine and pernicious consequences, is that launched by John Maynard (Lord) Keynes, who for a decade succeeded in carrying economic thinking well back to the dark age; but of late this wave of the future has happily been passing ".

What, after all, did Keynes do, if we wish to express it in a single sentence ? He emphasised the profound and pervasive importance of uncertainty in all our economic affairs. It is uncertainty which gives rise to liquidity preference, it is uncertainty which gives to the " marginal efficiency of capital " (or whatever related concept we put in its place) its central strategic importance. It may be that Keynes had written the *General Theory of Employment, Interest and Money* before he became fully aware that this was the central strand of the system he had evolved. But he had realised it fully when he wrote the brilliant article simply called " The General Theory " in the *Quarterly Journal of Economics* (February 1937). To one who saw economics thus extended into virtually a new dimension (no doubt Lindahl and Myrdal and their pupils were getting at the same thing by a different route, but we did not hear their signals plainly until later), the rejection of Keynes's work is absurd and pathetic, but above all it is an utter mystery. Professor Knight is one of the great liberal economists of our age: was Keynes, even when he advocated protection as part of a cure for a nation's unemployment, even when he wanted governments to take an interest in the " great aggregates ", so dark an enemy of freedom ? No one who knew him can dream it. Can one who is so insistent on the rôle of accident and error and the unpredictable twist of things, and who once wrote *Risk, Uncertainty and Profit*, reasonably rank Keynes as his intellectual enemy ?

This book of essays will give to a resolute and patient reader an insight into the mind of one of the greatest social philosophers of our times.

G. L. S. SHACKLE.

The Cotton Industry in Britain. By R. ROBSON. Macmillan & Co. Ltd. 1957. xx + 364 pp. 60s.

This book may well be read as a model study in industrial economics. Its main features are a detailed description and critical assessment of the structure of the industry, a thorough analysis of costs and prices during the post-war years, and a frank review of the industry's prospects. Dr. Robson, who was until 1957 Director of the Economics and Statistics Department of the Cotton Board, supports his themes with very full statistics, many of them derived from special investigations made by the Cotton Board and not previously published.

Perhaps the principal point of general interest suggested by Dr. Robson's work is the reaction of the cotton industry to the post-war changes in its circumstances. Two major forces have operated on the industry. The first is the continuation of the secular decline in the demand for British cotton goods. Exports of cotton and rayon cloth are now about two-thirds lower than in 1937 and spun yarn output is down by about one-third (very close, in fact to the most pessimistic of three alternative estimates of the long-term demand prospects for the industry made by the Cotton Board in its report on post-war problems in 1944). The second influence on the industry is general full employment in the economy. It is the interplay of these two forces which explains much in the present position of the industry.

The continued fall in output has resulted, as it did in the inter-war period, in a gradual elimination of productive units, but not fast enough to balance the reduction in output. Hence productive capacity has remained continuously in excess of output. In 1955, on Dr. Robson's reckoning, about two-thirds of the spindles in place and three-quarters of the looms could have produced the year's output by full-time single-shift working. Dr. Robson suggests that the decline in output will continue for some time yet, until exports have fallen to the point at which further decline will be offset by the 2 per cent. a year expansion of the home market which might reasonably be expected.

The effects of general full employment on a declining industry have been striking. General labour shortage means that the existence of excess capacity is no longer a serious threat to prices. The labour shortage has " sterilised " the unused plant as successfully as the pre-war Spindles Board, and more successfully, in all probability, than the other pre-war efforts to reduce redundancy would ever have done. Thus, when price control ceased, it became possible to secure effective voluntary agreements for price maintenance in the spinning and finishing sections—although not in weaving. Attempts to organise collective price maintenance before the war had almost all broken down when markets weakened and by 1939 a majority of the industry had come to accept the principle of statutorily enforceable minimum prices—a principle embodied in the Cotton Industry (Reorganisation) Act which reached the statute book a few days before the outbreak of war and was never brought into effect. Full employment secured for the industry, at one stroke, what a large part of the industry had been struggling to secure for 15 years before the war first by voluntary agreements and finally by seeking powers of statutory enforcement.

It might be hoped that the financial stability and absence of " excessive " competition afforded by these favourable circumstances would promote fairly extensive improvements in technique and organisation—for instance a great extension of double-shift working; while the labour shortage might be expected to provide a stimulus to the introduction of more up-to-date machinery. Only a few firms have reacted in this way—hindered by the tradition that all such matters must be regulated by collective agreements applying to the industry as a whole, so that the go-ahead firm cannot go too far ahead of the rest. Most of the industry is still working on single shifts, with a large proportion operating short-time or working only a proportion of the plant; as Dr. Robson shows, annual output per spindle in Lancashire is half the average for Western Europe and a quarter of the average in U.S.A.

The industry is now facing a new competitive force: the incursion of textile imports from Asia into the home market. This threat has been met, so far, by appeals for Government protection. The transition towards a free trade area in Europe may further strengthen competition. Will these forces provide a more effective stimulus to the transformation of the industry ?

Dr. Robson's conclusions, although mildly expressed, imply a change in outlook of which there are few signs yet: "the great economies which the industry achieved by its high degree of concentration and by its horizontal specialisation are perhaps under present conditions more than offset by the need for new ideas and new entrants which a more decentralised and more integrated industry may more easily provide".

C. T. SAUNDERS.

The Economics of Real Property: An Analysis of Property Values and Patterns of Use. By RALPH TURVEY. Allen and Unwin. 1957. x + 150 pp. 16s.

We should all be grateful to Mr. Turvey for this book; and he is likely to get less thanks for it than he deserves. For this is a book which needed to be written. It fills an empty space in the economist's basic stock of prefabricated material—that stock which we draw on for our lectures or turn to an honest guinea in the bank reviews. We all know the general theory for the pricing and allocation of factors of production. We are all fairly familiar with the property market. But hitherto no one has put the two together in that special kind of generalized particularity appropriate to the analysis of the individual factor markets. This is Mr. Turvey's contribution: "just as labour has sufficient peculiarities to justify labour economics as a separate branch of study, so the heterogeneity, indivisibility and institutional peculiarities of real property make some separate treatment worth while". Unfortunately for Mr. Turvey's credits, it is difficult in reading his pages not to believe that we have known it all beforehand. And so we have, *roughly speaking*. But our knowledge has been of the kind which one acquires by familiarity, by living in a place for a long time. We have never been quite sure of how the various areas fitted together. And certainly, we have been chary of giving directions to newcomers: there is no chapter on the property market in the text-books to match the chapter on labour.

Now, Mr. Turvey has given us a map and a very competent map too. It takes up 54 pages and is in four chapters: a chapter defining technical terms and emphasizing property interests as the functional units; a chapter on the determination of the market price for a particular property interest as a problem in capital theory; a chapter on changes in rents and prices, treated in terms of comparative statics; and, fourthly, a chapter about the pattern of urban property values, allowing for "general" and "special" accessibility, property's equivalent to labour's non-competing groups. There are, of course, still shortages at some points. One would have liked to have seen, for instance, some discussion of the relationship between private property values and the public provision of services (roads, for example) which themselves take up space. The entrepreneurial activity of urban development also deserves a more extensive treatment. But the latter in particular would require empirical research of which, in this country, there has been little or none; and though Mr. Turvey has hunted widely for information, he has not himself undertaken any fresh empirical studies. His book is rightly described as an introduction to the subject with emphasis on the analytical framework. Mr. Turvey also concentrates progressively on urban property and though, following the four basic chapters, a fifth is offered on agricultural land, it only skims the ground. Rural property provides a conglomeration of heterogeneous sites for a multiplicity of competing and complementary activities and to restrict the discussion to a single product, " corn ", can only be a small beginning.

The last four chapters are taken up with particular questions relating to urban property: an analysis of the total effect of local rates, showing how they initially depress rents but with some subsequent recovery as new building is slowed down; a discussion of the rating of site values with emphasis on leasehold property, the most difficult part of the question; and a critical examination of the case for state intervention in tenancy contracts as a way of encouraging long-term developments. Finally, and occupying 46 pages, there is a fresh review of the compensation and betterment problem. This is stuffed with information and acute thinking. Nevertheless, I found it disappointing. Well before reaching the conclusion—that " the compensation-betterment problem has yet to be solved satisfactorily "—one begins to wonder if the dominance of historical narrative over economic analysis offers the best service which Mr. Turvey can give to this tiresome subject. A deductive essay based on the twin premises of (i) the right of private enterprise to own and use property and (ii) the absolute right of the public authorities to determine (and redetermine) the uses to which that property may be put, might have led Mr. Turvey into those " distributional " questions which, throughout this book, he has assiduously avoided. But it might also have been more instructive—to the planners as well as to economists.

R. C. TRESS.

Science and Economic Development. By R. L. MEIER. John Wiley & Sons Inc., New York. Chapman & Hall Ltd. 1956. xviii + 266 pp. 48s.

This is not a theoretical study of the process by which new scientific discoveries are translated into economic development; it is a review of the ways in which human welfare might be improved through the use of existing scientific knowledge. The point of view of the author, who is familiar with the work of economists and sociologists, but is by training a scientist, is akin to that of a super-planner who has been working on a blueprint for the world of 2,000 A.D. and is ready to give marching orders not only to those who control new investment but also to scientists in their laboratories and pilot plants. The task that he has set himself is to evaluate what we already know but have not yet put to full use and to search for gaps in our knowledge at critical points where an extra effort of research would open up important new economic possibilities.

It is a tremendous undertaking to scan the whole field of scientific endeavour in order to give concreteness to what science has in store for us. It is still more difficult to frame the questions and express the answers in terms that make sense to an economist. Economists should be doubly grateful, therefore, to the author of this neo-Wellsian treatise. They will not be surprised that his concept of welfare leans towards needs rather than wants, or that it should not have occurred to him (p. 158) that there are other means than " political compromise or strife " of resolving conflicts between values and interests. The hand may be clothed in economics but the voice is unmistakably the voice of science.

It is rare to find a book on economic development in which the centre of interest lies so unremittingly in the future and so infrequently in the past. Even in discussing the Malthusian dilemma, Professor Meier allows himself only one diagram of population trends and this goes 65 years forward in time as well as 55 years back. On the other hand, he devotes six fascinating pages to the prospects that science will discover a small pill, " as simple in its application as taking aspirin ", to produce temporary sterility. When he turns to food supply, he wastes little time on improvements in yields and plunges briskly into the economics of protein synthesis, the mass cultivation of algæ, the microbiology of fatty yeasts, hydroponics, etc. Here he recognises that consumer preferences cannot be left out of account—since even rats need salesmanship before they eat what is good for them—and recommends more research, possibly in Japan, into the utilization of microbiological foodstuffs.

Since, in the long run, fuel and power are the key resources, a lengthy chapter is devoted to new fuels. This ranges over an enormous field: among the topics discussed are the new technologies that may come into play as minerals become scarcer, the utilization of solar energy, the energy requirements that clothing and shelter should provide and the energy costs of different methods of transport. Of the equally wide range of subjects discussed in the final chapter, the imaginative treatment of problems of urbanization merits special attention.

The economist who grapples with all this cannot avoid one general impression: the enormous capital requirements of almost every new departure in technology that is contemplated. For those who have little jam today, is there really much prospect of jam tomorrow unless science has more to offer than Professor Meier holds out ?

A. K. CAIRNCROSS.

British and American Manufacturing Productivity. By MARVIN FRANKEL. Bureau of Economic and Business Research, University of Illinois, Urbana, Illinois. 1957. 130 pp. $1.50.

Mr. Frankel presents a detailed comparison of British and American productivity in manufacturing industries, a discussion of the reasons why U.S. productivity has grown faster than British in the last century, and an analysis of likely developments up to 2000 A.D.

His industry comparisons are based on the British 1948 census and on the U.S. 1947 census, and cover 34 industries, 21 of which were also covered by Rostas. He finds output per employee in the U.S. to be 2.4 times that in the U.K. (unweighted average) compared with Rostas' figure of 2.2 for output per worker. If one calculates averages for output per employee-hour from Frankel's estimates, they show U.S. productivity to have been 2.6 times that of the U.K., compared with Rostas' figure for 1935-39 of 2.8. His figures therefore suggest that the U.K. caught up some of the pre-war gap in terms of output per man-hour. This is a very striking result which Frankel apparently has not noticed. As he does not describe his methods in detail, or indicate whether they are the same as those used by Rostas, the reader must use his results with great caution. Frankel does not attempt to show how productivity moved in individual industries from the pre-war to the post-war period, in spite of differences between his figures and those of Rostas which imply, for example, that the U.K. made very big relative gains in rubber tyres, biscuits, tin containers, and brewing, and relatively big losses in cigarettes and wool yarn.

He attempts to discover by statistical analysis of his 34 industries the extent to which the U.S. advantage is explained by better natural resources, more intensive capitalisation, bigger plants or bigger markets. The findings are not very conclusive in most cases, but he finds a marked correlation between market size and productivity. However, he attributes the U.S. advantage not to the relative smallness of the British market but to the fact that each British industry breaks up its markets by product differentiation.

When he turns from his " cross section " data to a " developmental " analysis, Mr. Frankel becomes much more bold and confident in his conclusions. The cross section analysis obviously has considerable limitations; nevertheless, Rostas got a great deal more out of it than Frankel has done. His developmental analysis suffers from two major defects. He uses very little historical evidence to prove his points (what he does use is not always the best available), and his hypotheses are too vague for any clear growth model to emerge. This is a pity because his analysis is stimulating and imaginative even if it is sometimes incoherent.

He cites figures to show that U.S. productivity has grown faster than British since 1870, and his main thesis is that American productivity growth has been greatly helped by the rapid rate of growth of the population and labour force. He has a number of arguments to show that more rapid growth will improve productivity because of its effect on capital structure. Here his argument suffers from vagueness of definition, and is repetitive to a degree that leads to considerable double counting. He shows that in a rapidly growing economy the average age of capital equipment will be lower than in a slowly growing economy. However, if the average age disparity is of the order he suggests, it would be unlikely to have a great effect on productivity unless one assumes that the efficiency of capital falls at a remarkable pace. The average quality of capital equipment will also be better in a rapidly growing economy because the younger capital stock will include the effects of later technological developments. These arguments are reasonable enough and would explain a once-for-all U.S. lead, not a growing disparity; but he suggests further that the slower growing economy will have a cumulative technological lag due to indivisibilities which will lead it to postpone indefinitely its adoption of a modern technology. He argues that a good many technological improvements are interrelated to such a degree that a slowly growing economy will never be able to adopt them. The best example he can find is the British railway system which was constructed with an 8-feet gauge, and hence was forced thereafter to use " silly little bob-tailed carriages " and could not adopt the more efficient freighting practices possible with the American railway gauge. This example is not very convincing as a railway roadbed is one of the most permanent of capital assets. It is difficult to find other instances of the permanent effect of the adoption of an earlier technology, and his remarks on the steel industry are insufficiently detailed to make his point clear. He suggests that the U.S. capital structure has always consisted of assets with a shorter life than those in the U.K., though he provides no real evidence on this, and does not explain clearly how it affects the rate of productivity growth. He also suggests that the slower growth of the British economy led both employers and workers to resist change much more strongly than in America, and here he seems to be on good ground.

It is curious that Frankel should devote so much space to the quality of capital, and simply mention *en passant* that the quantity of capital per worker has grown faster in the U.S. than in the U.K. He produces no evidence on this topic, and the only reason he gives for this phenomenon is that American industrialists invested more because their expectations were always more buoyant. If one went into the reasons for this in more detail, one might find a good many clues.

He expects that British productivity growth will continue to lag behind that of the U.S. for much the same reasons as it has in the past, and he considers that the post-war British growth has contained exceptional backlog factors and is not sustainable in the longer run. A more careful analysis of his own data might have led to more optimistic conclusions.

A. MADDISON.

Contemporary Collective Bargaining in Seven Countries. Edited by ADOLF STURMTHAL. The Institute of International Industrial and Labour Relations, Cornell University, New York. 1957. ix + 382 pp. $4.50.

The seven countries do not include Sweden, Australia or New Zealand, but they do cover a great diversity of institutions and attitudes. Nationally centralised bargaining which endeavours to reach and apply a consensus on the principles of wage policy and the main lines of each year's changes is exemplified by Holland and Norway. In Germany employers' associations are more cohesive and vigorous than the trade unions. France and Italy show trade unionism riven by politics and religion, and France also illustrates the political factor in wage determination. In both Britain and the United States collective bargaining has been shaped under the impact of independent unions, but it is now much more closely regulated by law in the United States, where also the predominant form of agreement is the plant contract, as against the industry-wide understanding in Britain. Professor Sturmthal in a concluding essay compares the seven countries in respect notably of the coverage of collective bargaining and its effects upon the wage structure and the course of inflation.

What seems most remarkable to the reviewer laying down this useful book is how little effect of all these divergences of law, institution, and temperament can be traced in the course of wages since the war. The countries are much more like one another in what has actually happened than the differences in the way they fix wages would ever seem to allow. The view that economic forces are preponderant, though often lost to sight under the foam of other currents, receives some confirmation; so does the view that the unions have played more a passive than an active part in the course of inflation.

Besides affording these international comparisons, this book is noteworthy for the compact information and penetrating commentary in the papers by Allan Flanders on Britain, Clark Kerr on Germany, and Neil Chamberlain on the United States.

E. H. PHELPS BROWN.

The Growth of Public Employment in Great Britain. MOSES ABRAMOVITZ and VERA F. ELIASBERG (National Bureau of Economic Research). Princeton University Press, Princeton. Oxford University Press. 1957. xiv + 151 pp. 30s.

This short book is primarily a statistical analysis, in the N.B.E.R. tradition, of the growth of government employment in the U.K. between 1890 and

1950. The main study is prefaced by two chapters outlining the general purpose of the study and sketching in the background of the nineteenth-century developments. The next three chapters are the heart of the book. They show in considerable detail the growth of public employment in Britain over the chosen period and analyse it in a number of different ways, for example, by central and local government, by defence and non-defence employment, by central government department, and by local government function, etc. The story is copiously illustrated by detailed tables and charts. The next chapter deals with the nationalised industries, and the last attempts some comparison between British and American experience over the period. Some particularly interesting conclusions emerge from this last chapter. If nationalised industries are left out of account, aggregate government employment has behaved very similarly in both countries in the last half-century. In 1900 total government employment in the U.S. was 4·7 per cent. of the total employment whilst it was 5·8 per cent. in Britain; in 1950 the respective figures were 12·3 per cent and 14·1 per cent.

The great merit of the book is that some attempt is made to peer behind the rather forbidding statistical facade and examine the historical reasons for the various recorded changes. In this respect the chapter on the nationalised industries is particularly striking. A great range of sources has obviously been worked over and even the most obscure ones seem to have been spotted. The statistical workmanship and the presentation of the tables and charts are of an extremely high order.

A. R. PREST.

Sterling and Regional Payments Systems. By J. O. N. PERKINS. Melbourne University Press. Cambridge University Press. 1956. xv + 171 pp. 30s.

La zone sterling. By JEAN DE SAILLY. Armand Colin, Paris. 1957. xviii + 131 pp.

Both these books on the sterling area are good, but in very different ways. M. de Sailly's book is a factual survey with commentaries. It is an example of brilliant didactics. Based on the author's lecture notes, the narrative displays erudite knowledge and a clear arrangement. To the best of the reviewer's knowledge, there is no other up-to-date book on the subject that equally clearly brings out the salient features of the United Kingdom's always changing position in the sterling area. It is all done without serious omissions and without getting the style cramped anywhere.

Mr. Perkins' book is different. It is argumentative, provocative and full of the ardour of a successful Ph.D. candidate. The approach is direct to current problems (in contrast to M. de Sailly's historical approach). The gold and dollar pool is recognised as the sterling area's central institution. The problems of the sterling area as such are the problems of this pool. This is well known and there is a fairly substantial amount of literature on how the Bank of England administers the sterling area's central reserves. But it is perhaps not so widely known that the gold and dollar reserves of the various sub-centres in the sterling area are of growing importance. If these " fringe reserves " are added to those held in the United Kingdom, the sterling area's total reserves were some 25 to 30 per cent. higher in 1951–54 than the centrally held ones alone.

Mr. Perkins discusses the relative advantages and disadvantages of centralisation and fragmentation of exchange reserves. Amongst the arguments for centralisation is that pooling means an economy of exchange reserves. To pool exchange reserves with others insures against exchange difficulties, unless all members simultaneously run into the identical difficulties—which is less liable to occur than difficulties for individual members. Amongst the arguments for fragmentation are those based on the belief in some quarters that a country's credit standing in the United States is raised if it has its own reserves, the belief that alternative reserves are desirable as long as there is a risk of a fall in the value of sterling, and the belief that fragmentation of reserves would force sterling area countries to concentrate on dollar-earning trade rather than on the dollar-saving trade they seek and often find in the sterling area. It is the old problem of discriminatory or non-discriminatory controls. With pooling, members and non-members are treated differently. Fragmentation is a step in the direction of non-discrimination. If complete fragmentation were practical, individual member-countries' dollar balances might look better than they do now—but, as the author points out, there are not enough reserves to make it possible for members to claim and get their shares of the reserves all at once, so that complete fragmentation is out of the question. The mere fact that the reserves of the area as a whole are less than individual members' rights to these reserves shows that the present volume of trade would need more exchange reserves with fragmentation than with pooling. The move towards fragmentation is thus likely to remain within limits for some time to come.

Much of Mr. Perkins' book deals with the general desirability or otherwise of regional monetary arrangements, with special reference to the sterling area and the European Payments Union. The views of several writers on this subject are summarised. All seem agreed that the purpose of regional monetary arrangements is to strengthen the reserves. Various proposals are discussed on how best to induce countries to put as much as possible into the central reserves. The reviewer wonders whether any of these schemes would really provide a better incentive to good behaviour than the fact that holders of sterling balances receive interest which they forgo when they withdraw their balances and claim their gold. Whatever monetary and other reforms may be desirable, there is, at present, no lack of monetary incentive for keeping funds in London.

F. V. MEYER.

Teach Yourself Statistics. By RICHARD GOODMAN. English Universities Press. 1957. 239 pp. 7s. 6d.

This is a text to be warmly recommended to those who need to learn something of modern statistical techniques and who do not wish to be fobbed off with rules of thumb, set down without proof. There are books for armchair reading which explain the basic ideas of statistics while avoiding the mathematics necessary in developing them—for example, Tippett's excellent volume in the Home University Library. Mr. Goodman has not written another of them; instead he has attempted the much more difficult task of giving, in a few pages, a mathematical development of the fundamentals of statistics. His mathematics are generally simple, sometimes (admittedly) tedious, but never shirked.

It follows that the reader must be prepared to abandon his arm-chair, to sit down with pencil and paper, and to work and re-work his way through the text. He will be assisted by collateral reading in other and larger texts. When he has finished he will find he has a basic grounding for further study of methods and for applications in various fields. The merit of this introductory book—and it is a rare one—is that the reader will have very little to un-learn and to re-learn when he has mastered it.

It is important to make clear exactly what ground Mr. Goodman covers. After a brief " first look around ", he divides his text into two parts, each of 5 chapters covering about 100 pages. In the first part, he deals with descriptive statistics, and specifically with frequency distributions and their characteristics. The Binomial, Poisson and Normal distributions have a chapter each and another is devoted to a condensed account of bivariate distributions, correlation and regression. All this makes use of the Beta and Gamma functions, and it is firmly based on the concept of the expectation $E(x)$ of a variate x and on moment-generating functions.

In the second part, Mr. Goodman shows how his tools are to be used for other than descriptive purposes, tackling the problems of estimation and significance. He pauses long enough to make some excellent points on sampling theory in general and he is then ready to embark on a systematic development, first of the t and z (or F) distributions, then of their extension into the analysis of variance and the testing of correlation, and finally of the chi-square distribution and its various uses. The critical point is soon reached (formula 7.11.4 on p. 147) in the derivation of the joint distribution of the mean and variance in samples from a normal population. This is the *pons asinorum* of sampling theory and lightly indeed does Mr. Goodman leap over it. He might, however, have concentrated his efforts on pushing his readers forcibly across, not expecting them to follow meekly in his wake. But, once across, the going is good.

Mr. Goodman has been placed at some disadvantage. His volume is one of a uniform series of " Teach Yourself Books " and the page and type are both very small for his purpose. It is surprising that the text is as clear as it is. Even so, to save a line or two, the devices of the bracket and the slant are badly over-worked. For example (p. 152, last line), what should appear as:

$$\left[\left(1+\frac{t^2}{n-1}\right)^{n-1} \times \left(1+\frac{t^2}{n-1}\right)\right]^{-\frac{1}{2}}$$

is printed: $[(1+t^2/(n-1))^{(n-1)} \times (1+t^2/(n-1))]^{-\frac{1}{2}}$

which needs very close inspection to make sense.

Further, Mr. Goodman has not been well served either by his printer or by his own efforts at proof-correction. In one of his more striking examples, he assumes that the distribution of printer's errors follows the Poisson law with a mean of 0.4 per page. He finds that he should then expect 27 per cent. of the pages with one error and 6 per cent. with two or more. This cannot be far out as a description of the finished product.

Indeed, occasionally, there is some doubt whether it is the printer or Mr. Goodman's exposition which is at fault. The moment-generating function $M(t)$ is introduced (p. 55) in a rather casual way, including two contradictory statements. It would be better to bring $M(t)$ in earlier (p. 44) when the probability-generating function $G(t)$ is defined. So, for the continuous variate case:

$$G(t)=E(t^x)=\int_{-\infty}^{+\infty} t^x\phi(x)dx; \qquad M(t)=E(e^{xt})=\int_{-\infty}^{+\infty} e^{xt}\phi(x)dx$$

and the relationship is clear. Again, formulæ (5.4.5), (5.4.9) and (5.4.10) are all defective; surely $P(0<x\leq X)$ should be written, not $P(x\leq X)$. Similarly, on p. 141, $P(|\bar{x}-\mu|\leq d)$ should be written. Between formulæ (6.6.1) and (6.12.2) the frequencies f_i seem to have been dropped. In the short section allotted to the subject (pp. 153–5), confidence limits later appear as fiducial limits, without explanation.

These are all points which Mr. Goodman can clear up easily when he prepares a second edition. At the same time, he may consider adding further examples. Those he gives, both worked out in the text and appended as exercises (with solutions), are good but not numerous in view of the essential part they play. There is no index; there should surely be one.

R. G. D. ALLEN.

The Physiology of Industry. By A. F. MUMMERY and J. A. HOBSON. Kelley & Millman Inc., New York. 1956. xvii + 215 pp. $5.

Hobson and Underconsumption. By E. E. NEMMERS. North-Holland Publishing Company, Amsterdam. 1956. 152 pp.

The question which the reprinting of Hobson's *Physiology* seems to pose the reviewer might be put, in the phraseology of examination papers, as follows: " 'The publication of this book marks, in a sense, an epoch in economic thought' (Keynes). Comment. " (Or perhaps: " In what sense, *if any*, do you regard this statement as true ? ") Keynes's statement may be true in the sense that in this book, for about the first time in English for nearly a century, a well known economist, or, at any rate, one who subsequently became well known, challenged the Smith-Turgot analysis of saving and investment and the practical conclusions which followed from it; that is he challenged that analysis which, as Schumpeter says, " it is doubtful whether Alfred Marshall had advanced beyond . . .[,] certain that J. S. Mill had not ", and to which Böhm-Bawerk " substantially subscribed ". As the authors put it in 1889: " We contradict the generally accepted dogmas that the saving of the individual must always and necessarily enrich the community " (p. VIII), since all savings are invested, or as the, in this respect, very orthodox Cannan explains in Palgrave's *Dictionary*: " The savings and the new investments of the world are in short identical ", (and Cannan made it clear that he means this proposition somehow both in the *ex-ante* and *ex-post* senses).

Unfortunately, although he broke completely and obviously with the *consequences* of the Smith-Turgot analysis, neither in this first work, nor, as Professor Nemmers shows, down to his last, did Hobson break with the formulation that saving " increases the existing aggregate of capital " (*Physiology*, p. V); nor did he ever appreciate the role of hoarding or changes in liquidity preference. These are very serious, even fatal, flaws, but it is, nevertheless, reasonable to hold, with Keynes, that Hobson " preferred to see the truth obscurely and imperfectly rather than to maintain error, reached indeed with clearness and consistency and by easy logic, but on hypotheses inappropriate to the facts ".

Dr. Nemmers's very useful and careful study emphasises the variations to be found in Hobson's works, comprising, as they did, fifty-three books written in forty-nine years. For example, in *The Physiology of Industry* the role of the maldistribution of income is not developed, nor is that doubtful idea of the " right ratio " of spending to saving. Dr. Nemmers stresses *The Problem of the Unemployed* (1896) as one of the first and best of Hobson's statements. He is especially interesting on Hobson's celebrated theory of Imperialism and its close relation to his under-consumption analysis, but points out that in the later and little known work, *The Economic Interpretation of Investment* (1911), Hobson gives a " thorough-going defence of foreign investment as economically sound for both the debtor and creditor countries ", and advocates stable international relations as a prerequisite for foreign investment. Dr. Nemmers's work performs a very useful and interesting service, though perhaps a concluding review or summary of the various facets of his exposition, at the end of the book, might have been more helpful than the rather sketchy introductory survey, with which he begins, of five earlier under-consumptionists, none of whom, apparently, had any significant influence on Hobson.

T. W. Hutchison.

The Economic Thought of Franklin D. Roosevelt and the Origins of the New Deal. By Daniel R. Fusfeld. Columbia University Press, New York. Oxford University Press. 1956. 337 pp. 40s.

This volume represents more than an attempt to identify and trace the development of Roosevelt's economic ideas. Professor Fusfeld tries to show that, contrary to the accepted opinion, Roosevelt's " views on basic economic matters were well-articulated " and amounted to an " economic philosophy ". In so doing, he gives a chronological survey of F.D.R.'s contacts with the ideas, books, men, and practical problems which comprised his experience of economic affairs up to 1932, and conclusively demonstrates that there were many precedents for New Deal policies. The anticipation of N.R.A. in the work of the American Construction Council (Chap VII) is only one of several illuminating examples.

Professor Fusfeld maintains that throughout his career Roosevelt pursued certain basic socio-political objectives—such as improved average living standards, especially for rural families; planned use of natural resources; extended social welfare legislation; etc.—and that he was always prepared to use government power to attain his ends. But this " economic philosophy " was compatible with a wide variety of practical proposals, often mutually contradictory. Though his pursuit of certain ends may have been fairly consistent, Roosevelt frequently employed inconsistent means of attaining them, and invariably subordinated both ends and means to the dictates of political expediency.

In examining the factors shaping Roosevelt's economic thought the author correctly assigns a greater weight to contemporary opinion and problems than to intellectual antecedents. Nevertheless, his treatment of the latter is unwarrantably restricted, for a more comprehensive account of the state of American economics in the 1920's would have shed considerable light on Roosevelt's own position. His distaste for abstract theorising, his opportunism, and his piecemeal approach to economic problems did not merely represent the response of a practising politician to the tactical needs of an ever changing environment. He possessed a remarkable capacity for absorbing current ideas—he had a flypaper mind, as R. G. Tugwell once remarked—and his policy pronouncements, like his choice of economic advisers, reflected the contemporary supremacy of economic heterodoxy, and the influence of Dewey's instrumentalism in particular. (Tugwell's essay on " Experimental Economics " in *The Trend of Economics*, 1924, is a case in point). Apart from his discussion of the " Brains Trust " (Chap. XV), which is largely based on secondary materials, Professor Fusfeld either ignores or makes only passing reference to the leading contributors to this approach (for example Veblen is not even mentioned in the bibliography). In consequence, he overlooks the significant parallel between the economic pragmatism of the 1920's and the patchwork character of the New Deal policies.

While he has provided some of the evidence relevant to a study of the origins of the New Deal, Professor Fusfeld has not convinced the present reviewer that the accepted view of Roosevelt as an economist requires substantial modification.

A. W. Coats.

Economic Policy in the Development of a Western State: Missouri, 1820-1860. By J. N. Primm. Harvard University Press. London: Geoffrey Cumberlege. 1954. xii + 174 pp. 30s.

" Anything . . . " wrote Harriet Martineau in 1835, in applauding the efficacy of government at the state level in America, " can be done on the mere will of the people concerned; . . . no imploring of an uninterested government at a distance; . . . no waiting anybody's pleasure; nobody's leave to ask ". Four important works are now in print, in a series sponsored by the (American) Committee on Research in Economic History, which study in detail the part played by the state governments in the early economic development of different regions of the U.S.A.[1] All four books reach the conclusion that, in the states studied, state governments actively promoted schemes of public and private welfare, though the degree of success achieved varied widely. In Mr. Primm's words, " during the period before the Civil War, the state took an active, positive rôle in the economic affairs of its citizens, and was not hampered appreciably in this course by *laissez-faire* or non-intervention theories. In so far as negative ideas found expression they tended to be directed at federal, rather than state, economic activity."

Missouri, with a population of only 140,000 in 1830, presents many contrasts with the states examined in the other works. Not admitted to statehood until 1821 following the Missouri Compromise, its problems were those of Trans-Appalachia. Although it was taken for granted that the state government should act, it was by no means settled how government should act, in what spheres and to whose advantage. Although there was always present a vague concept that the state government had a fundamental responsibility for the welfare of its citizens, it hardly appears as an impartial arbiter between conflicting interests, and the parties struggled for political power as a means of controlling the direction of economic policy. The main issues, Mr. Primm instructs us, were the question of a state bank, the policy to be pursued towards the chartering of corporations and towards " internal improvements ". The bank problem was argued along lines parallel to those found at the national level, and it was not until 1837 that the Bank of the State of Missouri was eventually created. The farmers of the state, suspicious of private finance and of Eastern commercial interests, insisted upon a state-operated banking system ; one of the duties of the state government was to safeguard the citizens against the machinations of outsiders. The Bank held a monopoly until the general banking law of 1851. A strong element of " welfare " was to be found in the early attitudes towards incorporation, for instance, in the state donations to the St. Louis Public Hospital founded in 1831 and, with some incorporations, in the provisions for ultimate public ownership. But once they had persuaded the Legislature that their activities would be to the public advantage and had received their charters, corporations received wide powers. The struggle of the 1840s was between the groups insisting on the need for corporation privileges and those desiring closer governmental supervision; the older areas regarded incorporations as progressive and desirable, the more remote areas were the loudest in demanding restriction and control. By the 1850s the policy was clearly established that the legislature should encourage business enterprise by a liberal incorporation policy and in the second half of the decade more than seventy banks and insurance companies were created, eighty transport and thirty manufacturing and mining concerns. There was rarely any argument whether the government should promote " internal improvements ", i.e. transport undertakings, but the expediency of specific projects, the nature and amount of state assistance, the question of federal intervention, were hotly debated. In the midst of the financial crisis and depression of 1836–37, an ambitious railroad scheme was adopted, far too ambitious for the resources available and doomed to exist on paper only. There gradually developed a policy of state loans to railroads and by 1860 the state had pledged credit in aid of railroads to an amount of $23 million, a sum twenty-five times as large as the state's average annual income during the previous decade.

---

[1] The other works in the series are: Oscar and Mary Handlin, *Commonwealth: A Study of the Rôle of the Government in the American Economy: Massachusetts, 1774-1861* (Harvard, 1947); Louis Hartz, *Economic Policy and Democratic Thought, Pennsylvania 1776-1860* (Harvard, 1948); Milton S. Heath, *Constructive Liberalism: The Rôle of the State in Economic Development in Georgia to 1860* (Harvard, 1954).

Mr. Primm's narrative account is punctuated by his own illuminating analytical commentaries. With his conclusion that state economic activities were the product not of a theory of state action but of the essentially pragmatic outlook of westerners in general, there can be no quarrelling. Each plan of action was measured by its expected contribution to general welfare and to the interests of the individual's section or social group. The attitudes taken and policies adopted were in consequence not always theoretically consistent. This book is worth the study of those interested not only in problems of economic development but also in government and politics.

J. Potter.

Malthus et la population. By Joseph Stassart. Faculté de Droit de Liège. 1957. 342 pp.

This book is a studiously careful attempt to assess Malthus " at face value ". The elements of his population system are set out and discussed with great perseverance. The successive editions of the *Essay* and the literature dealing with them have been canvassed so that as we encounter each facet we are presented with the reactions it has induced in readers down to the present time. It is a complete book rather than an original one for though the author expresses his own opinion on the opinions he has mustered, his thinking is clearly provoked by them. We have then, not a new Malthus, but an exhaustive assessment of the old one.

Yet there is virtue in this. Many problems which have been inadequately treated in the past literature, or which have been so often discussed as almost to lose their point, are dealt with in this orderly and readable exposition. For example, the nature of vice and misery, and their relationship, in Malthus's mind, to population restraint, are considered at some length in the attempt to bridge what has always been a puzzling gap. The author's chosen objective of completeness, though it does not often strike sparks of originality, has made it possible for him to locate some of the weaknesses of the existing literature, and to make useful attempts to repair them.

The disadvantage, however, of this method of approach is equally plain. The structure of the exposition is rigidly set by what Malthus wrote and by the form he chose. For example, an attempt is made to deal with the origins of the *Essay*. The economic context is given, together with the contemporary debate which, according to his own account, provoked Malthus. But the *Essay*, in fact, reflects assumptions and attitudes which were powerful in forming Malthus, but of which he himself was scarcely aware. It was a fascinating synthesis of elements from many sources: Aristotelian physics, the Hellenic preoccupation with harmony and proportion, the long struggles of philosophers to construct simple theses about the nature of man, the doctrine of original sin, the work ethic, a view of pleasure that defines it in terms of relief from pain or effort, together with eighteenth century rationalism and the political outlook appropriate to agrarian paternalism. In understanding it, and the convulsive grip it took upon so many minds, we need to study not merely the contemporary challenge of growing numbers and the immediate " perfectionist " debate with Godwin and Condorcet, but also the thought forms which conditioned the outlook of the educated Englishman, both in Malthus's time and later. But Dr. Stassart has decided to confine himself to the explicit assumptions and logic of the *Essay* in its successive forms, and in so doing provides a valuable conspectus.

S. G. CHECKLAND.

Rural Depopulation in England and Wales 1851–1951. By JOHN SAVILLE. Dartington Hall Studies in Rural Sociology. Routledge & Kegan Paul, Ltd. 1957. xvi + 253 pp. 28s.

Though the subject of rural depopulation was already a hobby-horse for polemical writers as long ago as the eighteen-eighties it has been somewhat neglected as a matter for full-scale academic enquiry. There have doubtless been good reasons for this. Many of the most important causes and effects were obvious and much of the doom-laden commentary for popular consumption was just as obviously nonsense that nobody need take seriously. But not all the mechanics of the process of depopulation nor all its social consequences were evident to superficial observation. There was an important gap in knowledge here and Mr. Saville has now gone far towards filling it.

After a well balanced summary of the necessary background of economic history he presents his main original contribution, a detailed quantitative analysis of the way in which internal migration led to rural depopulation. It is particularly useful that, for certain substantial sample areas, he analyses the changing population figures for individual parishes, grouped by size, and is thus able to bring to light phenomena that are usually concealed in the county figures, including the extent of continued depopulation in the first half of the twentieth century. There is also a careful quantitative demonstration of the fact, often neglected in general historical works, that rural depopulation was not solely the direct result of rural inhabitants going to live in the towns, but was increased and prolonged by the disproportionate numbers of the young and the female in the exodus. The consequent changes in the population structure of rural areas not only reduced the rate of natural increase there but also altered the character and attractiveness of social life. There can be little doubt that Mr. Saville has dealt with the most significant relationships between population structure and rural depopulation, but to make his study really conclusive it would have been better to push the demographic enquiry a little further so as to consider marriage and perhaps also illegitimacy rates. It would also have been worth while to look at age and sex composition, as well as total population, for individual parishes. Some change of perspective might have resulted. Mr. Saville writes of the present excess of males in rural areas as " a new demographic phenomenon . . . whose consequences have as yet hardly been considered ". But there were plenty of rural parishes which were already experiencing this phenomenon a hundred years ago.

The book is concluded by a slighter but balanced summary of present-day rural problems and by a detailed survey, both historical and contemporary, of the South Hams district of Devonshire. The latter is careful and useful but whether it is as representative a guide to the problems of contemporary rural England as the author suggests is doubtful.

W. Ashworth.

The Combined Food Board. By E. Roll. Stanford University Press. Oxford University Press. 1957. xiii + 385 pp. 60s.

The CFB—by BFM out of USDA—was one of the several Combined Boards which sought, in their various fields, to co-ordinate the needs and efforts of the allies during the last war. Two considerations mainly prompted its conception in February, 1942. On the one hand were the difficulties for the British Food Mission arising from conflicting national policies when the food situation was sharpened by the entry of Russia and the U.S.A. into the war and the danger that competitive purchasing would produce an inflationary rise in prices and a distribution of foodstuffs unrelated to needs. On the other hand were the inconveniences due to the fact that though the U.S. Department of Agriculture was the main channel for obtaining food supplies from the U.S.A., for some purposes other bodies had to be approached and this led, or might lead to, confusion and overlapping. Because North America was clearly the larder as well as the arsenal of the democracies it was highly desirable that all the lines of communication should be brought to a focus and all supplies into a common pool. Thus the CFB was born, with the task of harmonising potential supplies and facilities for their transportation with the demands of the allied nations and of embodying the results in recommendations.

It was not a mandatory body, it had no powers to enforce its views and its staff was not " international " in the sense, for example, of that of SHAEF. Its purpose (the quotation is from a memorandum of procedure of 20 April, 1945) was to

> " provide a common forum in which member nations may discuss jointly problems of mutual concern. . . . Its purpose is not to assume authority or operating responsibility but to provide programs with respect to which all possible international differences of opinion have been reconciled."

By that time Canada had been added to the original two-member (U.K. and U.S.A.) Board, while representatives of other countries manned a number of Standing Committees on Commodities.

Mr. Roll's story of the CFB—which forms one of the studies on Food, Agriculture and World War II published by the Food Research Institute of Stanford University—sets the life of the Board (which lasted from 9 June 1942 to 30 June 1946) against the background both of the specific U.K. problems of food procurement in the immediately preceding years and of the ever widening problems of procurement and allocation posed first, by the needs of global war and later, by those of liberation and the transition to peace. It is a sober narrative, not without an occasional wry comment, but, one feels, hardly doing justice to the moments of frenzy or farce which must have been more numerous than appear. There is an invaluable Appendix containing a chronology, a well chosen variety of illustrative documents and summary tables from the three enquiries into Food Consumption Levels which, between them, give figures for the U.S., Canada and U.K. for pre-war, 1941, 1943, 1944 and 1945.

These tables, Mr. Roll suggests, represent the nearest the Board came to a search for some basis on which to erect principles of food allocation. Though the enquiries were of the greatest interest and not without influence on food policy, Mr. Roll is firm—and rightly so—in his opinion that the search for the " principles " on which the Board worked is illusory. Of the three elements of co-operation mentioned by the author—people, technique and principles—he clearly shows that the most important is the continuity and responsibility of people. In this respect the British element formed the stable core of the Board; the members changed but little and were still, though *in partibus infidelium*, part of the Food Ministry in Whitehall, with definite executive responsibilities within it. On the American side reorganisation was a recurring threat to continuity and the U.S. members were, at times, divorced from their domestic food administration. Canada, midway between the two, was able to play a valuable moderating role. But the effectiveness of the Board was in direct ratio to the extent to which the U.S. provided an active Board member with definite responsibilities and authority.

Mr. Roll's final chapter, though only nine pages long, is a masterly appraisal of the nature of the co-operation achieved by the Board, its methods and success. He may be thought a shade too favourable to the Board, for although " over 40 million tons of foodstuffs a year were affected by its recommendations, covering commodities produced by nearly 50 countries . . . and distributed for consumption in more than 70 countries ", in times of crisis, as in 1945, the Board seems to have been relatively ineffective. Yet even this episode showed that the Board did not suffer from the sort of *amour propre* and sense of vested interest that a more formal body might have felt. All in all, one must assent to his conclusion:

> " Thus, the history of the Board shows that it is possible in certain circumstances to develop, by broad, but persistent, forms of co-operation, a connective tissue as powerful and, perhaps, more resilient than can be achieved by more rigorous constitution-making."

E. M. Hugh-Jones.

L'Évolution du revenu agricole. By Marc Latil. Librairie Armand Colin, Paris. 1956. xiv + 378 pp.

The author assuredly does not lack perspective. His work falls within the framework of Professor Marchal's enquiries designed to ' enlarge and renew the theory of distribution '. In the Preface Marchal himself outlines the purpose of such enquiries—to construct a ' theory of the division of the national income among social groups '—that is, a system of explanation which will deal with actual relative levels of income in such groups and provide the basis for action or justify inaction. It should be a ' sociologico-economic theory ', not confined to purely economic causation, but taking account of political pressures compelling the State to legislate, and of institutional factors such as the relative strength of farmers' and distributors' organisations. Marchal adds that, in respect of such a theory as applied to agriculture, the author *pose, avec netteté et vigueur, les fondements.*

M. Latil's first stage is to account for the relative long-term decline in agriculture's total share of the national income. The reasoning is best presented, he feels, as part of the economics of growth, and in this he covers what is now fairly familiar, though logically indispensable, argument relating to the dynamics of the demand and supply affecting farm manpower. He offers, incidentally, some trenchant comment on the unhelpful tendency to ' export ' capital from a capital-starved industry.

One novel contribution to this theory of distribution among social groups is the analysis, in a section on " The Political Position of Agriculturists ", of the forces tending to give the farming community much greater political strength than might be expected from their numbers and wide dispersion. The position leads, in fact, to the emergence of a " political rent ". Exploring further the analogy with rent in its several possible definitions, the author comes to the conclusion that substantially all elements in the farmers' revenue have something in common with this class of return. Though he may not intend it, he will probably stimulate many readers to pursue in thought precisely what the effect would be of attempting to produce a comprehensive theory of distribution by extending the concept of quasi-rent to embrace all forms of income.

J. R. Bellerby.

Agricultural Policy and Trade Liberalization in the United States 1934–1956. By Allan Rau. Etudes d'Histoire Economique, Politique et Sociale, Geneva and Paris. 1957. 160 pp.

This well documented study illustrates the conflict in the United States between its commercial policy, which aims at freer multilateral trade, and its farm price policy which involves import restrictions, state trading and export subsidies. As Professor Galbraith wrote in 1954: " Recent administrations have promoted a liberal trade policy with one hand, and in the farm policy have laid the foundation for economic nationalism with the other ".

Dr. Rau's useful historical background starts with expansion of U.S. farm production in World War I—the cropped area in 1920 exceeded the 1910 level by 45 million acres or nearly 15 per cent. He then deals with the collapse of farm prices in 1920–21 (the concept of farm " parity " was first mooted in 1922), the equalisation-fee plan, and the export-debenture plan leading to the Agricultural Marketing Act of 1929 and the creation of the Federal Farm Board. Then came the world slump which shattered President Hoover's hopes of " prosperity round the corner ", and for the next ten years U.S. farming faced the severest depression in its history.

The Democratic Party platform in 1932 advocated reciprocal tariff reductions as a means of finding wider markets for United States exports, and in 1934 the Reciprocal Trade Agreements Act was passed. Meanwhile, the Agricultural Adjustment Act, which authorised production controls, import quotas and export subsidies, was in direct conflict with the movement towards trade liberalisation. Few people worried much about the conflict at that time since it was expected to be only temporary. In fact for more than ten years the conflict was in abeyance as a result of the war and the post-war food shortage. But since the post-Korean fall of prices the conflict has become chronic and acute.

Dr. Rau illustrates the clash of policies by a series of case studies under the General Agreement on Tariffs and Trade (G.A.T.T.). In 1951 eight countries lodged a complaint that the U.S. was violating G.A.T.T. through import restrictions on dairy products authorised by the 1950 Defence Production Act. In 1953, Greece, Turkey, Italy and South Africa complained about the U.S. export subsidy on raisins; and in October 1953 Turkey retaliated by granting a similar export subsidy on Turkish raisins. Other countries, including the U.K. on behalf of certain colonies, complained about the U.S. export subsidy for oranges. Italy complained about the U.S. export subsidy for almonds, while Turkey objected to U.S. import restrictions on filberts.

The reader will turn with interest to Part 3 of the book, dealing with possible solutions. The author recognises that " the ideal solution " of restoring a free market economy, with no governmental action to increase or stabilise farm incomes, must be ruled out as " politically unpalatable ". His second solution would be to restore free markets and substitute direct payments to farmers for price-support. In 1955 this was adopted for wool; but the so-called Brannan Plan providing for direct income payments for farmers has not been favoured by the Farm Bloc. A more radical approach would be state-assisted withdrawal of labour and reduction of the acreage under cultivation. Surplus farm labour would be encouraged to migrate into industry by re-training and grants for transport expenses. Steps would also be taken to attract new industries to low-income rural areas. In 1956 Congress accepted a watered-down version of the President's " soil bank " proposals for eliminating marginal farm land from production.

As Dr. Rau points out, " resources do not leave agriculture fast enough ", and " agricultural output is persistently greater than can be sold at prices which would make agricultural incomes equivalent to non-agricultural incomes ". How true it is that agriculture is a way of life not easily assimilated into an industrial economy!

E. M. H. Lloyd.

Common Frontiers of the Social Sciences. Edited by Mirra Komarovsky. The Free Press, Glencoe, Ill. 1957. vii + 439 pp. $6.

This collection of papers by as many as eighteen authors is intended to show the relations between the social sciences by reference to specific topics. It will be refreshing to readers brought up on the older " humanities " to find history, political science and economics included in the social sciences, and in consequence to have such broad and broadly selected topics discussed as art and popular culture in eighteenth century England, voting trends in nineteenth century America, public opinion in twentieth century France (after the Liberation, 1944–49), trade union wage policy, plant sociology, the function of survey research in economics, and the non-economic assumptions of Keynes. The broad selection is defended in an introduction by the editor in which she is able to illustrate (p. 22) " certain modes of potentially fruitful inter-disciplinary co-operation ". This introduction is most helpful with its references to the subsequent papers and its footnotes truly laid at the foot of the page; elsewhere with the very reprehensible absence of an index and references segregated to tail-end notes, cross-checking is difficult.

The styles of the different authors differ as widely as their topics. Arensberg and Tootell pack their article on Real Discoveries and New Problems in Plant Sociology with allusions to the various schools of thought, Mayoite, Lewinian, Interactionist (not to mention Toynbeesque on p. 330), and often prove hard to understand. Such understanding is worth reaching, however, as the article attempts a useful critical review of modern American thought on incentives, morale, communication, leadership, pressure groups, identification (or " fusion of goals ") and most of the possible (and impossible) steps toward that increase in productivity which is to save England from inflation and loss of markets. It is certainly true, as the editor points out (p. 25), that economists have been too complacent, and often tautological in their " common sense " prescriptions for industrial efficiency, and they should accept the sociologists' help not only in interpreting events within the factory but also (as the article by Lipset and Trow on Reference Group Theory makes clear) in interpreting the wage demands of Trade unions. Here non-economic factors, such as comparison for fairness with other groups (often irrationally selected), status, prestige, tradition and the empire-building proclivities of trade union leaders, require specific analysis. Economists should, however, not turn blindly from the cult of Economic Man to that of Sociological Man. " The chosen world of the plant sociologists, " we are told (p. 305), " is relatively static " and " peopled by non-rational workers who desire security " and " have a strong sense of group interest ". Economists need not abandon the idea that man will strive rationally and individually for higher standards of living, but they must weigh these sociological findings in the balance. It is unfortunate for the economists' case that psycho-analysts were not asked to contribute to this symposium; many of them—like Alix Strachey in *The Unconscious Motives of War*—consider much group action a childish regression.

The articles on Keynes are less compressed and more single-minded. Several authors (Lekachman, p. 345, Vickrey, p. 379, Klein, p. 385) agree that forecasts based statistically on the Keynesian macro-scopic formula have failed to predict correctly, and most of them attribute this to Keynes' assumption of homogeneous consumers with stable tastes reacting automatically according to their incomes. Lekachman maintains (p. 349) that Keynes' investor or entrepreneur was also assumed to act automatically (except for occasional " animal spirits ") " on the rule that the future will resemble the present ". Here, however, adequate quotations or specific references to Keynes' work are sadly lacking. As the micro-scopic surveys by Katona of consumers and investors have shown, reality with its time dimension is more complicated than the Keynesians, if not Keynes, assume. These complications have made the discovery of wide long-range laws of human behaviour as yet impossible; but this book succeeds, I think, in showing how integration between the social sciences may soon evolve some trustworthy empirical *middle-range* generalizations.

P. SARGANT FLORENCE.

Business Forecasting in Practice: Principles and Cases. Edited by A. G. ABRAMSON and R. H. MACK. Wiley & Sons Inc., New York; Chapman & Hall Ltd. 1956. xiii + 275 pp. 52s.

This book consists of a collection of six case studies in the field of short-term business forecasting prepared by a group of practising economists in America. To introduce the six case studies—which deal variously with the period 1948 to early 1954—there is a summary chapter on Business Cycle Theories by Professor Russell H. Mack and a chapter giving a broad survey of the Techniques of Forecasting by A. G. Abramson. This chapter appears to be a little uneasy about the essentially statistical basis of such techniques—in so far as they can be objective and not subjective assessments of the various situations in view. For example, on page 41 it is stated that " the first important fact of concern to a prospective forecaster is that no infallible ways to predict the future have *yet* been discovered " (reviewer's italics): the use of the word " yet " gives a turn to this piece of wisdom that ought not to be necessary for the embryo forecaster. Then on page 57, under the heading of Econometric Models, we find the statement that " the influence of all the factors is reflected in a *sort* of multiple correlation formula or equation ", and a little further on : " If he used an Econometric Model approach he would establish a *mathematical* relationship . . . " (reviewer's italics). However, in dealing with the technique of Recurrent Cycles it is stated that the length of a cycle is an average figure, and that the forecaster using this technique will have to decide how much consideration he will give to the possibility of the actual varying from the average.

The six case studies represent manufacturing and trading interests as well as financial institutions. Each chapter includes six sections describing the actual forecast, the current causal factors and the techniques and methods used together with an evaluation of the data: how the general business forecast was translated into an industry or company forecast and its subsequent use in the particular company. The communication of ideas and experiences is one of the central problems of research and its application to both public and private life. This new book of case studies will no doubt be read with interest by economists on both sides of the Atlantic. But if a further collection of case studies was desirable in this field, it is questionable whether production in the somewhat costly form of a full-sized book will achieve the wide circulation which case studies ought to receive.

WM. R. BUCKLAND.

Five Hundred Over Sixty: *A Community Survey of Ageing*. BERNARD KUTNER and DAVID FANSHEL, ALICE M. TOGO and THOMAS S. LANGNER. Russell Sage Foundation, New York. 1956. 345 pp. $4.

This report is based upon a survey carried out in a central district of New York City which is perhaps exceptional in that it contains the United Nations Buildings, The Empire State and Chrysler Buildings, The Rockefeller Centre and the Metropolitan Museum of Art. Five hundred residents over the age of 60 were each interviewed for 1–1½ hours according to a prescribed sequence of questions put by a corps of thirty interviewers. The object was to see what needs existed among a cross-section of old people, what the social services were doing about these needs and whether they should be doing more. The Survey was undertaken jointly by the Departments of Health and Welfare of New York City, Cornell University Medical College and Social Science Research Centre and the Russell Sage Foundation; the report was written by Mr. Bernard Kutner and three associates. The book is therefore the product of many hands.

Many important questions are posed. One section of the report is devoted to patterns of adjustment in old age, a second to health and a third to trends in services for the aged. Married people were better " adjusted " to old age than the single and widowed, and people of high socio-economic status better adjusted than those of low. Many single people had particularly low morale. There was great opposition to retirement, more from a sense of uselessness than from an awareness of a fall in living standards. More high-status people saw their children frequently; and yet people whose children visited them frequently had lower morale than others. There was considerably more reported illness lower down the economic ladder. Nearly half the low-status people did not have a regular physician. Of those in poor health it was the isolated who made least use of health services and were least inclined to join old people's (or " golden age ") clubs. The British reader will find special interest in the references to meagre community services, to costly health services and to the relatively harsh administration and poor living standards of public assistance.

But any field-study stands or falls on the quality of its field work, and the more one examines detail the more obvious it is that the whole tendentious edifice of this book rests on the flimsiest foundations. The account of sampling procedure is vague and unconvincing. The number of " non-contacts " is not given and the refusal rate (25 per cent.) is exceptionally high. The sample itself differs markedly in several respects from the population as represented by the Census of New York. As many as 32 per cent. of the married and widowed people (Table 33) are allegedly childless and as many as 47 per cent. of the sample are alleged to have no relatives other than children (Table 34). The authors seem too far removed from the people whose lives they are apparently describing. No attempt seems to have been made to establish the most elementary facts about daily life, such as the functioning of the household and activities with relatives and friends. Absurd importance is attached to scales and indices for measuring attitudes and social situation—the morale scale, the self-image scale, the age-conservatism scale, the compulsiveness scale and the Elmira study scale of senility; and also to such devices as a neurotic symptoms index and a futility index. None of these stands up to close examination. Each one rests on a classified answer to a few simple questions, many of which no social scientist in his right senses would expect to be uniformly appropriate for such diverse people.

PETER TOWNSEND.

SHORTER NOTICES

The Transformation of the Board of Trade 1830-1855. By ROGER PROUTY. Heinemann. 1957. viii + 123 pp. 15s.

This book is not what the title suggests. It deals with the legislation which created new duties for the Board of Trade, but to the *transformation* of the Board—its internal reorganization and the methods of work adopted in order to cope with those duties—it gives only a few perfunctory pages at the end. More than half of it consists of a painstaking account of the origin and content of legislation affecting merchant shipping. Other topics are deliberately treated only briefly, but brevity does not excuse the lack of insight in the ponderous judgments delivered upon them. The book is dull and not very well written and has little to offer even to specialist students.

Struktur und Funktionsweise des Geldmarktes der Deutschen Bundesrepublik seit 1948. By EKHARD BREHMER. J. C. B. Mohr (Paul Siebeck), Tübingen. 1956. 124 pp. Dm.6.25.

For the monetary specialist with a knowledge of German this book provides a thorough survey of the theoretical background to money markets in general, and of the actual working of the West German money market since the currency reform of June, 1948.

Brehmer defines a money market as " the exchange of central bank money among institutions outside the central banking system ", and argues that such a market must be based on a distribution of liquid funds at any given moment of time, such that certain institutions have more, others less, liquid funds than they need. The author analyses the main factors which can lead to such liquidity divergences—different circles of customers, the distribution of public funds, the degree of indebtedness to the central bank, the method of calculating statutory minimum reserves, and varous types of policy measures. Three chapters are concerned with the rôle these factors have played in the West German monetary system, another contains a theoretical analysis of price-formation in a money market, and a closing chapter some useful reflections on the relation between the German money market and central bank policy.

Balances and Imbalances of Payments. By G. CROWTHER. Harvard Business School, Boston. Bailey Bros. & Swinfen Ltd. 1957. vii + 70 pp. 16s.

This book contains three lectures, given at Harvard, on the elements of international payments problems. The first discusses, in very broad terms, the development of the balance of payments as a nation's economy grows. The second explains the present division of the Western World into two major payments areas. In the third Sir Geoffrey Crowther outlines his reasons for believing the dollar problem to be intractable. All is said with the clarity and elegance we have come to associate with this former Editor of *The Economist*, and the result is a little book useful for the general economics student (especially at the revision stage), for university extension readers, and perhaps also for the bright boys in the Sixth Form.

Monetary and Fiscal Policy under Uncertainty. By KARL OLOF FAXEN. Almqvist and Wiksell, Uppsala. 1957. 212 pp.

The central part of this book is the analysis of behaviour under conditions of uncertainty. The author distinguishes risk and uncertainty à la Knight and adds the third category of " game uncertainty " where the effects of one's own actions depend upon the reactions of others. His discussion of the choice of strategy under such conditions is in some respects a continuation of lines of thought developed by the Stockholm School. The nature of the sort of situation examined is made clear with the aid of partition trees. In three final chapters the author then examines the application of his approach to various problems; these chapters do not by any means fulfil the promise of the book's title but contain inconclusive, though interesting, illustrations of the importance of game uncertainty.

Guide to Resources for Commonwealth Studies. By A. R. HEWITT. Athlone Press. 1957. viii + 219 pp. 21s.

This is a helpful guide to materials bearing on British Commonwealth affairs, past and present, located in London, Oxford and Cambridge. A wealth of information is presented in easily manageable form. Its wide scope is indicated by the fact that there are about one hundred entries in the section "Individual Collections in London," ranging from the Admiralty to the Zinc Development Association.

Books Received

Adler, S.: *The Chinese Economy.* Routledge & Kegan Paul. 1957. xi, 276 pp. 25s.

Albers, W.: *Die Einkommensbesteuerung in Frankreich seit dem ersten Weltkrieg.* Kieler Studien, Kiel. 1957. x, 320 pp. Dm. 36.

Allardice, C.: *Atomic Power—an Appraisal.* Pergamon Press. 1957. 151 pp. 21s.

Alnwick, H.: *A Geography of Commodities.* New edition. George G. Harrap & Co. Ltd. 1957. 196 pp. 15s.

Amin, S.: *Les effets structurels de l'intégration internationale des économies précapitalistes.* Office Universitaire de Polycopie, Aix en Provence. 1957. 641 pp. Fr.2400.

Beit, Sir A. and Lockhart, J. G.: *The Will and the Way 1906-1956.* Longmans, Green & Co. Ltd. 1957. xii, 106 pp. 42s.

Bellamy, Joyce M.: *The British Markets for Flour and Wheatfeed.* University of Hull. 1957. 42 pp. 7s. 6d.

Bezy, F.: *Problèmes structurels de l'économie congolaise.* Editions Nauwelaerts, Louvain. 1957. 285 pp. B.Fr. 200.

Bonné, A.: *Studies in Economic Development.* Routledge & Kegan Paul. 1957. x, 294 pp. 32s.

Brown, G. S.: *Probability and Scientific Inference.* Longmans, Green & Co. 1957. ix, 154 pp. 15s.

Carter, C. F. and Others, eds.: *Uncertainty and Business Decisions.* 2nd edition. Liverpool University Press. 1957. x, 158 pp. 22s. 6d.

Chow, G. C.: *Demand for Automobiles in the United States.* North-Holland Publishing Company, Amsterdam. 1957. xi, 110 pp. Fl. 10.

Clegg, H. A. and Adams, R.: *The Employers' Challenge.* Basil Blackwell. 1957. viii, 179 pp. 21s.

Cole, G. D. H.: *Capitalism in the Modern World.* Fabian Society. 1957. 33 pp. 2s. 6d.

Crosser, P. K.: *Economic Fictions.* Philosophical Library, New York. 1957. xxiii, 322 pp.

Dales, J. H.: *Hydroelectricity and Industrial Development—Quebec 1898-1940.* Harvard University Press. Oxford University Press. 1957. xii, 269 pp. 45s.

Dehem, R.: *Eléments de science économique.* Institut de Recherches Economiques et Sociales, Louvain. 1957. 218 pp. B.Fr. 210.

Diamond, W.: *Development Banks.* The Johns Hopkins Press, Baltimore. Oxford University Press. 1957. xiii, 128 pp. 24s.

Fforde, J. S.: *An International Trade in Managerial Skills.* Basil Blackwell. 1957. viii, 153 pp. 18s. 6d.

Fisher, Sir R. A.: *Statistical Methods and Scientific Inference.* Oliver & Boyd. 1957. viii, 175 pp. 16s.

Ford, P. & G.: *A Breviate of Parliamentary Papers 1900–1916.* Basil Blackwell. 1957. xlix, 470 pp. £4 12s. 6d.

Glasser, M. G.: *Public Utilities in American Capitalism.* The Macmillan Company, New York. 1957. xiii, 624 pp. 52s. 6d.

Grisard, G. E.: *Der britische Kohlenbergbau.* Polygraphischer Verlag A. G., Zurich. 1957. 131 pp. S.Fr.12.45.

Grondona, L. St. C.: *Utilizing World Abundance.* George Allen & Unwin. 1957. 190 pp. 21s.

HABER, L. F.: *The Chemical Industry during the Nineteenth Century.* The Clarendon Press. 1957. x, 292 pp. 45s.

HAILEY, M. (Baron HAILEY): *An African Survey: revised 1956.* Oxford University Press. 1957. xxvi, 1,676 pp. £5 5s.

HEWITT, A. R.: *Guide to Resources for Commonwealth Studies.* The Athlone Press. 1957. viii, 219 pp. 21s.

HOGBEN, L.: *Statistical Theory.* George Allen & Unwin Ltd. 1957. 510 pp. 45s.

HUBBACK, JUDITH: *Wives who went to College.* Heinemann. 1957. viii, 164 pp. 12s. 6d.

JATHAR, G. B. and BERI, S. G.: *Elementary Principles of Economics.* 8th edition. Oxford University Press. 1957. ix, 410 pp. Rs. 6.50.

JATHAR, G. B. and K. G.: *Indian Economics.* Oxford University Press. 1957. xv, 479 pp. 21s.

JEANNENEY, J. M. and PERROT, MARGUERITE: *Textes de droit économique et social français 1789–1957.* Librairie Armand Colin, Paris. 1957. xix, 709 pp. Fr. 2900.

JONES, L.: *Shipbuilding in Britain.* University of Wales Press, Cardiff. 1957. 244 pp. 30s.

KAHN, R. L. and CANNELL, C. F.: *The Dynamics of Interviewing.* John Wiley & Sons Inc., New York. Chapman & Hall Ltd. 1957. x, 368 pp. 62s.

KATONA, G. and Others: *Business Looks at Banks.* University of Michigan, Ann Arbor. 1957. vii, 184 pp. 37s. 6d.

KENDALL, M. G.: *A Course in Multivariate Analysis.* Charles Griffin & Co. Ltd. 1957. 185 pp. 22s.

KOOPMANS, T. C.: *Three Essays on the State of Economic Science.* McGraw-Hill Publishing Co. Ltd. 1957. xi, 231 pp. 49s.

LEWIS, J.: *Marxism and the Open Mind.* Routledge & Kegan Paul. 1957. xviii, 222 pp. 25s.

LUDWIG, M.: *Internationale Rohstoffpolitik.* Polygraphischer Verlag A. G., Zurich. 1957. 128 pp.

MACBEATH, A.: *Can Social Policies be Rationally Tested?* L. T. Hobhouse Memorial Trust Lecture. No. 27. Oxford University Press. 1957. 20 pp. 2s. 6d.

McCARTHY, P. J.: *Introduction to Statistical Reasoning.* McGraw-Hill Publishing Company Ltd. 1957. xiii, 402 pp. 43s. 6d.

MARTIN, J. P.: *Social Aspects of Prescribing.* William Heinemann Ltd. 1957. xii, 180 pp. 21s.

MEIER, G. M. and BALDWIN, R. E.: *Economic Development.* John Wiley & Sons Inc., New York. Chapman & Hall Ltd. 1957. xix, 588 pp. 68s.

MORICE, JANINE: *La demande d'automobiles en France.* Librairie Armand Colin, Paris. 1957. xv, 218 pp. Fr. 1800.

MUKERJI, K.: *The Problems of Land Transfer.* Visva-Bharati, Calcutta. 1957. xix, 274 pp. Rs.10.

NUTTER, G. W.: *Some Observations on Soviet Industrial Growth.* National Bureau of Economic Research. Occasional Papers. 55. New York. 1957. pp. 618–630. 50 c.

O.E.E.C.: *European Payments Union.* Paris. 1957. 63 pp. 6s.

PERLO, V.: *The Empire of High Finance.* International Publishers, New York. 1957. 351 pp. $5.50.

PHELPS, C. W.: *Accounts Receivable Financing as a Method of Business Finance*. Commercial Credit Company, Baltimore. 1957. vii, 65 pp.

POPPER, K. R.: *The Poverty of Historicism*. Routledge & Kegan Paul. 1957. xiv, 166 pp. 16s.

RAMIREZ, M. P.: *La Escuela Nacional de Economia—esbozo historico, 1929–1952*. Universidad Nacional Autonoma de Mexico, Mexico. 1952. 480 pp.

RANGA, N. G.: *Credo of World Peasantry*. The Indian Peasants' Institute, Andhra. 1957. xvi, 504 pp. Rs. 7.50.

RAO, B. S.: *Surveys of Indian Industries*. Vol. I. Oxford University Press. 1957. vi, 358 pp. 27s. 6d.

REDER, M. W.: *Labor in a Growing Economy*. John Wiley & Sons Inc., New York. Chapman & Hall Ltd. 1957. xii, 534 pp. 52s.

REICHMANN, W. J.: *The Fascination of Numbers*. Methuen & Co. Ltd. 1957. 176 pp. 15s.

RITCHIE, R. S.: *The Economics of Alliance*. The Ryerson Press, Toronto. Bailey Bros. & Swinfen Ltd. 1957. 147 pp. 24s.

ROBERTSON, H. M. *South Africa*. Duke University Press, Durham. Cambridge University Press. 1957. x, 192 pp. 26s.

ROBERTSON, Sir D.: *Lectures on Economic Principles*. Vol. I. Staples Press Ltd. 1957. 172 pp. 16s.

ROSENBLUTH, G.: *Concentration in Canadian Manufacturing Industries*. Princeton University Press. Oxford University Press. 1957. xv, 152 pp. 28s.

SAMPEDRO, J. L. and Others: *Estudios sobre la unidad económica de Europa*. Tomo VI. Estudios Económicos Españoles y Europeos, S.A. Madrid. 1957. xliv, 818 pp.

SARKAR, N. K.: *The Demography of Ceylon*. Government Press, Ceylon. 1957. 289 pp.

SAYERS, R. S.: *Lloyds Bank in the History of English Banking*. Clarendon Press. 1957. xii, 381 pp. 35s.

SCAMMELL, W. M.: *International Monetary Policy*. Macmillan & Co. Ltd. 1957. xiv, 402 pp. 40s.

SEN, S. R.: *The Economics of Sir James Steuart*. G. Bell & Sons Ltd. for the London School of Economics and Political Science. 1957. vii, 207 pp. 25s.

SICRON, M.: *Immigration to Israel 1948–1953*. Falk Project for Economic Research in Israel, Jerusalem. 1957. xix, 137 pp. $2.

SILCOCK, T. H.: *Fiscal Survey Report of Sarawak*. Government Printing Office, Sarawak. 1956. 83 pp.

SINGH, D. B.: *Inflationary Price Trends in India since 1939*. Asia Publishing House, Bombay. 1957. xiii, 284 pp. Rs. 16.50.

SOMOGYI, S.: *Fertilitá umana e trasformazione economica*. Istituto di Medicina Sociale, Rome. 1957. 266 pp.

STARK, H.: *Modern Latin America*. The University of Miami Press, Florida. 1957. xiii, 321 pp.

STAVENHAGEN, G.: *Geschichte der Wirtschaftstheorie*. Vandenhoeck & Ruprecht, Göttingen. 1957. 536 pp. Dm.26.

STEIN, S. J.: *The Brazilian Cotton Manufacture*. Harvard University Press. Oxford University Press. 1957. xii, 273 pp. 40s.

STOHLER, J.: *Der Basler Arbeitsrappen*. Polygraphischer Verlag A.G., Zurich. 1957. 180 pp. S.Fr. 14.50.

STONE, R.: *Quantity and Price Indexes in National Accounts.* O.E.E.C. Paris. 1957. 120 pp. 10s.

STONIER, A. W. and HAGUE, D. C.: *A Textbook of Economic Theory.* 2nd edition. Longmans, Green & Co. 1957. x, 513 pp. 25s.

STUTZ, F. N.: *Der Konjunkturtest.* Polygraphischer Verlag A.G., Zurich. 1957. xxiv, 291 pp. S.Fr. 18.65.

TOWNSEND, P.: *The Family Life of Old People.* Routledge & Kegan Paul. 1957. xvi, 284 pp. 30s.

TRIFFIN, R.: *Europe and the Money Muddle.* Yale University Press, New Haven. Oxford University Press. 1957. xxvii, 351 pp. 40s.

TROTSKY, L.: *The History of the Russian Revolution.* University of Michigan Press, Ann Arbor. 1957. xxii, 504 pp. $12.50.

TROY, L.: *Distribution of Union Membership among the States 1939 and 1953.* National Bureau of Economic Research Inc., New York. 1957. viii, 32 pp. 75c.

U.S. SENATE SMALL BUSINESS COMMITTEE: *The Right to Buy—and its Denial to Small Business.* Washington. 1957. 118 pp.

UNITED NATIONS: *Economic Applications of Atomic Energy—Power Generation and Industrial Agriculture Uses.* New York. 1957. x, 108 pp. 3s. 6d.

UNITED NATIONS: *New Sources of Energy and Economic Development.* New York. 1957. 150 pp. 9s.

UNITED NATIONS: *Repertoire of the Practice of the Security Council—Supplement 1952–1955.* New York. 1957. x, 180 pp. 12s. 6d.

UNITED NATIONS: *Study of Inter-Latin-American Trade.* New York. 1957. vii, 313 pp. 22s. 6d.

UNIVERSITY OF CEYLON: *The Disintegrating Village.* Part I. Colombo. 1957. xvi, 83 pp.

VEIT, O. and Others: *Changes in Monetary Policy and their Consequences.* Fritz Knapp Verlag, Frankfurt am Main. 1957. 215 pp.

WALKER, G.: *Economic Planning.* William Heinemann Ltd. 1957. xii, 175 pp. 18s.

WATSON, G., ed.: *The Unservile State.* George Allen & Unwin Ltd. 1957. 324 pp. 21s.

WEILER, E. T. and MARTIN, W. H.: *The American Economic System.* The Macmillan Company, New York. 1957. xxv, 623 pp. 42s.

WERNER, J.: *Die Wirtschaftsverbände in der Marktwirtschaft.* Polygraphischer Verlag A.G., Zurich. 1957. xii, 231 pp.

WILLIAMS, D. B.: *Economic and Technical Problems of Australia's Rural Industries.* Melbourne University Press. 1957. xii, 146 pp. 27s. 6d.

WOLF, W. B.: *Wage Incentives as a Managerial Tool.* Columbia University Press, New York. Oxford University Press. 1957. x, 143 pp. 28s.

WRIGHT, D.McC., ed.: *The Impact of the Labor Union.* Kelley & Millman Inc., New York. 1956. ix, 405 pp. $8.50.

WÜRGLER, H.: *Malthus als Kritiker der Klassik.* Verlag P.G. Keller, Winterthur. 1957. xxiv, 200 pp.

YINGER, J. M.: *Religion, Society and the Individual.* The Macmillan Company, New York. 1957. xvi, 655 pp. 47s.

ZANIEWSKI, R.: *L'origine du prolétariat romain et contemporain.* Editions Nauwelaerts, Louvain. 1957. 197 pp. B.Fr. 350.

HEFFER'S

Books on

ECONOMICS
SOCIOLOGY
STATISTICS
POLITICS
HISTORY

W. Heffer & Sons, Ltd.
Petty Cury, Cambridge

PRINTING

OF QUALITY

●

We are in a position to undertake production of Magazines, Brochures, Catalogues, Folders, Pamphlets, Posters, and Commercial and Private printing, from Visiting Cards to Letterheadings.

ESTIMATES FREE

●

THE HEREFORD TIMES
LTD.

54 FLEET STREET, LONDON
E.C.4

●

AT MODERATE PRICES

Recently Published

French Banking Structure and Credit Policy

By J. S. G. WILSON, *Reader in Economics, with special reference to Money and Banking, University of London.*

MANCHESTER GUARDIAN: ‘excellent, up-to-date . . . His is a full, readable description of the French banks, from the private houses of Lazard, Rothschild, Worms, and the rest to the Bank of France itself . . . a reliable guide’.

GLASGOW HERALD: ‘Mr. Wilson has rendered a very substantial service in giving an up-to-date account of all these matters in a single volume’. *448 pp. 45s. net.*

The Economics of Sir James Steuart

By S. R. SEN, PH. D., *Economic and Statistical Adviser to the Government of India.*

The first full study of Steuart's life and works, which also sheds useful light on the economic doctrines of the 18th century. ECONOMIST: ‘outstandingly readable and stimulating’.

224 pages. 25s. net.

Published for the London School of Economics by

G. BELL & SONS LTD.

OXFORD ECONOMIC PAPERS

Editorial Board: T. Wilson (*General Editor*), J. R. Hicks, C. M. Kennedy, Sir Donald MacDougall, C. N. Ward-Perkins, N. H. Leyland (*Secretary*)

Vol. 9, No. 3 — OCTOBER, 1957

CONTENTS

THE RATE OF INTEREST AND MONETARY POLICY — *T. Wilson*
THE MIND OF THE CITY, 1870-1914 — *S. G. Checkland*
DEMAND THEORY REVISED — *C. F. Carter*
THE LAND MARKET IN THE NINETEENTH CENTURY — *F. M. L. Thompson*
THE MIDDLE-CLASS CO-OPERATIVE RETAILING SOCIETIES IN LONDON, 1864-1900 — *Julia Hood* and *B. S. Yamey*
A NOTE ON ECONOMIC DEVELOPMENT WITH SUBSISTENCE AGRICULTURE — *G. O. Gutman*
APPENDIX: A MATHEMATICAL NOTE ON THE GROWTH OF A TWO-SECTOR ECONOMY — *J. Black*

Oxford Economic Papers became a periodical in 1949, and is now published three times a year. The pre-paid subscription price is 35s., post free, and the price of a single copy 16s. net. Orders may be placed with any bookseller or sent direct to the Publisher.

OXFORD UNIVERSITY PRESS, Amen House, Warwick Square, London, E.C.4

THE ECONOMIC JOURNAL

The Quarterly Journal of the Royal Economic Society

No. 268 — DECEMBER 1957 — Vol. LXVII

I. ARTICLES
Is a Wage Policy Desirable and Practicable? — *D. T. Jack*
A Model of Economic Growth — *N. Kaldor*
Money, Prices and the Theory of Interest Determination — *G. Horwich*
Expenditure Taxes, Imports and Gross Domestic Product at Market Prices — *H. Burton*
Depreciation, Replacement and Growth—and Fluctuations — *E. D. Domar*
Odds, Possibility and Plausibility in Shackle's Theory of Decision: A Discussion — *G. Gould* and *G. L. S. Shackle*
British-Canadian Manufacturing Productivity — *J. B. Heath*
Clive Bell on Keynes (Review Article) — *R. F. Harrod*
II. REVIEWS
III. NOTES AND MEMORANDA
IV. RECENT PERIODICALS AND NEW BOOKS

MACMILLAN & CO. LTD., LONDON, W.C.2

Application for Fellowship to ROYAL ECONOMIC SOCIETY ,21 Bentinck Street, London, W.1.

Annual Subscription £1 10s. 0d. — Single Copy Ten Shillings

AMERICAN ECONOMIC REVIEW

Volume XLVII — DECEMBER 1957 — Number 6

ARTICLES
Monetary Systems and Accelerator Models — *H. P. Minsky*
Wages and Interest: Marxian Economic Models — *P. A. Samuelson*
Instalment Credit and Prosperity — *Alain Enthoven*
New Zealand's Experiment in Economic Planning — *J. B. Condliffe*
Effects of Consumer Attitudes on Purchases — *Eva Mueller*

REVIEW ARTICLES
Consumer Instalment Credit — *W. L. Smith*
Professor Cole's *History of Socialist Thought* — *P. M. Sweezy*

COMMUNICATIONS
External and Internal Public Debt — *J. M. Buchanan*
Acceleration and Magnification — *M. H. Peston*

The American Economic Review, a quarterly, is the official publication of the American Economic Association and is sent to all members. The annual dues are six dollars. Address editorial communications to Dr. Bernard F. Haley, Editor, American Economic Review, Stanford University, Room 220, Stanford, California; for information concerning other publications and activities of the Association, communicate with the Secretary-Treasurer, Dr. James Washington Bell, American Economic Association, Northwestern University, Evanston, Illinois. Send for information booklet.

THE ECONOMIC RECORD

The Journal of the Economic Society of Australia and New Zealand

Vol. XXXIII — DECEMBER, 1957 — No. 66

THE AUSTRALIAN ECONOMY, SEPTEMBER 1957 — *H. W. Arndt*
THE NEW ZEALAND ECONOMY, 1956-7 — *C. G. F. Simkin*

ARTICLES
BALANCE IN THE WORLD FOOD POSITION — *Sir Samuel Wadham*
SOME RECENT ADVANCES IN STATISTICS — *E. J. Hannan*
THE 1946-47 TRANSACTIONS TABLE — *Burgess Cameron*
COMPANY MERGERS IN AUSTRALIA — *J. Bushnell*
A MODEL OF THE TRADE CYCLE — *H. R. Hudson*

Note
FOUR YEARS OF RETAIL TRADING SURVEYS IN NEW ZEALAND — *J. W. Rowe*
News and Notes — Reviews

Annual Subscription £2 — Single Copies 13s. 6d.

MELBOURNE UNIVERSITY PRESS, THE UNIVERSITY, MELBOURNE, N.3, VICTORIA, AUSTRALIA

Registered in Australia for transmission by post as a periodical.

REVUE DE SCIENCE FINANCIÈRE

(THE FRENCH REVIEW OF PUBLIC FINANCE) No. 1 (1958) JANUARY-MARCH, 1958

CONTENTS

SOME CURRENT ISSUES IN THE TAXATION OF PERSONAL INCOME IN THE UNITED STATES *C. S. Shoup (New York)*
MONEY FLOWS AND ECONOMIC TABULATION *P. Maillett (Paris)*
THE CONTROL OF INDUSTRIAL LOCATION IN GREAT-BRITAIN: NEW TOWNS *J. Sykes (Exeter)*
THE SOLIDARITY OF TAXPAYERS *P. Lavigne (Strasbourg)*
TAX CAPITALISATION AND INVESTMENT THEORY *G. Rullière (Lyons)*
THE LEGAL PREROGATIVES OF THE TAX ADMINISTRATION *G. Tixier (Toulouse)*
SURVEY OF FRENCH FINANCE
ECONOMIC SURVEY OF FRENCH OVERSEAS TERRITORIES
BOOK REVIEWS BIBLIOGRAPHY
FRENCH AND FOREIGN FINANCIAL INFORMATION

The Review is published quarterly. Yearly subscription abroad 4,000 French francs or 9 U.S.A. dollars. Orders can be placed to Pichon and Durand-Auzias, 20 rue Soufflot, Paris (V°), and through Stechert-Hafner, 31 East 10th Street, New York, N.Y.

INTERNATIONAL SOCIAL SCIENCE BULLETIN

(published quarterly by the United Nations Educational, Scientific and Cultural Organization, 19 Avenue Kléber, Paris XVI)

Just issued, Vol. IX, No. 3

PART I DISAPPEARING CULTURES
PART II ORGANIZATION IN THE SOCIAL SCIENCES, NEWS AND ANNOUNCEMENTS—CURRENT STUDIES AND RESEARCH CENTRES—REVIEWS OF DOCUMENTS AND PUBLICATIONS OF THE UNITED NATIONS AND SPECIALIZED AGENCIES

Contributors to this issue: A. P. Elkin, S. Fuchs, S.J., H. Th. Fischer, I. Gurvich, M. Gusinde, R. Heine-Geldern, F. M. Keesing, G. Langrod, D. Ribeiro.

Single issue 300 fr., $1.00, 6s. Yearly subscription 1,000 fr., $3.50, 21s.
Send your subscription to H.M. STATIONERY OFFICE, P.O. Box 569, LONDON, S.E.1

THE CANADIAN JOURNAL OF ECONOMICS AND POLITICAL SCIENCE

The Quarterly Journal of the Canadian Political Science Association

VOLUME XXIII, No. 4 CONTENTS NOVEMBER, 1957

UNDER-DEVELOPED COUNTRIES IN THE WORLD ECONOMY *G. E. Britnell*
THE CIVIL SERVICE AND POLICY FORMATION *J. E. Hodgetts*
CHANGES IN CANADIAN SENSITIVITY TO UNITED STATES BUSINESS FLUCTUATIONS *G. Rosenbluth*
QUEBEC AND CANADIAN DEMOCRACY *Michael Oliver*
PARLIAMENT AND POLICY-MAKING *Hugh G. Thorburn*
THE AVAILABILITY DOCTRINE *Ira O. Scott, Jr.*
ETHNIC ASSIMILATION AND DIFFERENTIATION IN CANADA *Frank G. Vallee, Mildred Schwartz,* and *Frank Darknell*
NOTES AND MEMORANDA
MRS. ROBINSON'S HIDDEN MULTIPLIER *Jacob Schmookler*
CURRENT TOPICS
REVIEW ARTICLE
THE STRUCTURE AND ACCUMULATION OF CAPITAL *B. S. Keirstead*
REVIEW OF BOOKS

$6.00 per year *Subscriptions may be sent to* $1.50 per single issue
THE UNIVERSITY OF TORONTO PRESS, 33, ST. GEORGE STREET, TORONTO 5, CANADA

THE MANCHESTER SCHOOL

OF ECONOMIC AND SOCIAL STUDIES

Vol. XXV., No. 3. September, 1957

CONTENTS

THE CASH REWARD FOR AN HOUR'S WORK UNDER THREE PIECE-WORK INCENTIVE SCHEMES *Tom Lupton, Sheila Cunnison*
FACTOR ENDOWMENTS, INTERNATIONAL TRADE AND FACTOR PRICES *H. G. Johnson*
THE LEGAL MINIMUM WAGE, EMPLOYERS AND TRADE UNIONS: AN EXPERIMENT *Brian McCormick, H. A. Turner*
A NOTE ON SECULAR SWINGS AROUND ALTERNATIVE TRENDS *Rosemary Walker*
BOOKS RECEIVED

The Annual Subscription is twenty shillings (transatlantic subscriptions 3 U.S. dollars), post free. Single copies Seven Shillings and Sixpence (1 U.S. Dollar) post free.

Subscriptions should be sent to the SECRETARY, " THE MANCHESTER SCHOOL ", ECONOMICS DEPARTMENT, THE UNIVERSITY, MANCHESTER, 13, ENGLAND.

Made and printed in England by The Hereford Times Ltd., General Printing Works (T.U.),
London and Hereford. L6177.

ECONOMICA

BACK NUMBERS

The following back numbers are urgently required to make up complete sets for libraries:

OLD SERIES

May	1921 ..	No. 2
June	1930 ..	No. 29
November	1930 ..	No. 30

NEW SERIES

February	1934 ..	Vol. I	No. 1	August	1944 ..	Vol. XI	No. 43
May	1934 ..	"	No. 2	November	1944 ..	"	No. 44
February	1935 ..	Vol II	No. 5	February	1945 ..	Vol. XII	No. 45
February	1939 ..	Vol. VI	No. 21	May	1945 ..	"	No. 46
February	1943 ..	Vol. X	No. 37	August	1945 ..	"	No. 47
May	1943 ..	"	No. 38	November	1945 ..	"	No. 48
August	1943 ..	"	No. 39	February	1946 ..	Vol. XIII	No. 49
November	1943 ..	"	No. 40	May	1946 ..	"	No. 50
February	1944 ..	Vol. XI	No. 41	August	1946 ..	"	No. 51
May	1944 ..	"	No. 42	August	1947 ..	Vol. XIV	No. 55

GOOD PRICES OFFERED

These should be sent to :

Miss BETTY BARRON, PUBLICATIONS DEPARTMENT,
LONDON SCHOOL OF ECONOMICS, HOUGHTON STREET,
ALDWYCH, LONDON, W.C.2

POPULATION STUDIES

A JOURNAL OF DEMOGRAPHY

Edited by D. V. GLASS and E. GREBENIK

VOLUME XI, No. 2 CONTENTS NOVEMBER, 1957

H. C. BROOKFIELD — MAURITIUS: DEMOGRAPHIC UPSURGE AND PROSPECT

BERT F. HOSELITZ — POPULATION PRESSURE, INDUSTRIALIZATION AND SOCIAL MOBILITY

W. STYS — THE INFLUENCE OF ECONOMIC CONDITIONS ON THE FERTILITY OF PEASANT WOMEN

BERTRAM HUTCHINSON — SOME EVIDENCE RELATED TO MATRIMONIAL SELECTION AND IMMIGRANT ASSIMILATION IN BRAZIL

J. N. SINHA — DIFFERENTIAL FERTILITY AND FAMILY LIMITATION IN AN URBAN COMMUNITY OF UTTAR PRADESH

CHRISTOPHER TIETZE and CLYDE E. MARTIN — FŒTAL DEATHS, SPONTANEOUS AND INDUCED, IN THE URBAN WHITE POPULATION OF THE UNITED STATES.

BOOK REVIEWS

Subscription price per volume of 3 parts, 35s. net, post free (or American currency $5.75)

Single parts 15s. each, plus postage (American $2.50, post free)

Published by the Population Investigation Committee at the London School of Economics and Political Science, 15 Houghton Street, London, W.C.2

N.S. XXV, 97
FEB., 1958

ECONOMICA

Published Quarterly by
THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE
HOUGHTON STREET, ALDWYCH, LONDON

EDITORIAL BOARD:
R. G. D. Allen
W. T. Baxter
E. H. Phelps Brown
Sir Sydney Caine
R. S. Edwards
F. J. Fisher
F. W. Paish
Sir Arnold Plant
Lionel Robbins
R. S. Sayers*
(*Acting Editor)

Assistant Editor: B. S. Yamey

ECONOMICA, NEW SERIES, is devoted to Economics, Economic History, Statistics, and closely related problems. It appears in annual volumes, published at present in four parts in February, May, August, and November, the volumes as well as the individual numbers being consecutively numbered from the issue of February, 1934, when the NEW SERIES was commenced. It was preceded by ECONOMICA, A JOURNAL OF THE SOCIAL SCIENCES, of which 42 numbers in 13 annual volumes appeared from 1921 to 1933. From the beginning of 1934 the field covered by this Journal, which included all the subjects taught at the London School of Economics and Political Science, was divided between ECONOMICA, NEW SERIES, and a new Journal called POLITICA (the publication of which was suspended at the outbreak of war).

CONTRIBUTIONS:

The Editorial Board welcomes the offer of contributions from British or foreign authors. Manuscripts submitted for publication should be sent to the Editors of ECONOMICA, at the address given above. If a contribution written in a language other than English is accepted for publication a translation fee will be deducted from the payment usually made to contributors.

Neither the London School of Economics and Political Science nor the Editors take any responsibility for opinions or facts stated by contributors.

REVIEWS:

ECONOMICA endeavours to provide for its readers reviews of the more important works published in its field. The Editorial Board will be glad to receive review copies of works of a suitable kind, the receipt of which will be acknowledged by insertion of the title in the list published at the end of each issue. Beyond this the Editorial Board can assume no responsibility for the publication of a review of any particular book.

SUBSCRIPTIONS:

ECONOMICA will be sent post free to subscribers on payment of £1 10s. per annum. Single copies of the current issues are for sale at 10s. per number. The prices of back numbers will be quoted on application to Miss B. Barron, Secretary to the Publications Department, London School of Economics.

Cheques should be made payable to the London School of Economics.

ADVERTISEMENTS:

All communications respecting advertisements in ECONOMICA should be sent to: Mr. H. L. Walker, 54 Fleet Street, London, E.C.4 (Telephone: Central 5610)